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Introductory Address
ON
RESEARCH IN MEDICINE AND WOMEN IN RESEARCH.

Delivered at the Opening of the Winter Session, 1911, at the London School of Medicine for Women,

BY SIR HENRY T. BUTLIN, BART., D.C.L., LL.D., P.R.C.S.,

CONSULTING SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

LADIES AND GENTLEMEN,—I imagine that an Introductory Address a century ago afforded the hospital staff the opportunity of welcoming the new students and of giving them some idea of the scope and nature of the work which lay before them. And I have no doubt that the orator did sometimes tell the young men that the profession they sought to enter was a great and noble profession, and of an interest sufficient in itself to repay them for their labours. A hundred years ago there was ample reason for the address, for, once admitted to the school, the student was left much to his own resources.

REMARKS ON INTRODUCTORY ADDRESSES AT THE PRESENT DAY.

In these days the Introductory Address needs justification. What with students' numbers of the journals, what with resident colleges, wardens, tutors, and demonstrators, the student has no need of an address of welcome or of warning or of general advice. My own school (St. Bartholomew's) recognised this many years ago and abolished the Introductory Address; it has never regretted that it did so. But the custom still exists in most of the schools, and the orator, not being tied to the one subject, selects any subject which pleases him, usually without any reference to the opening of the winter session, or to the new students, except for a few words at the beginning or end of his address. In truth, it is difficult to find use or excuse for the Introductory Address in this twentieth century—except at the School of Medicine for Women, where the conditions are wholly different. The entrance of women into the medical profession, the foundation of this school, the success of women at examinations and in the honours' lists, the story of the pioneers who fought so bravely, the story of the positions which women have captured, the financial success or otherwise of the movement, the lines of practice which are likely to open to them, and a number of other subjects, all of which might perhaps be treated at another place or at another time, are nevertheless much more fitly treated here. The story of the struggle cannot be too often told to the students of the school. Nay, more, it is scarcely over yet, and those who may have to fight have need to be heartened up to wage the battle bravely. When I was invited to deliver the address I therefore accepted gladly—first, because I was very proud of the compliment; second, because your school, individually and collectively, has been more than kind to me; third, because, in the language of the day, I thought I had a "soft job" in hand. It seemed as if nothing could be easier than to select any one of the subjects I have mentioned and deliver an interesting address upon it, and I set the whole matter aside much longer than I ought to have done, for I have been heavily occupied this year. Finally, before deciding on the subject, I thought I would look through the addresses of the last 15 or 20 years to see what had been done. Imagine my dismay when I discovered that every conceivable and appropriate subject had been dealt with, and by persons who knew far more about each one of them than I could ever know. They were experts in them. They had borne a part in the fray. They had fought with purse and pen, if not with sword. And they had naturally been listened to, when they thought fit to speak, with that profound attention which the hero commands when he describes his own experience and offers advice and counsel which are founded on it.

When I discovered the trap into which I had fallen I was very sad. I had so earnestly desired to deliver an address which should be worthy of you—at least to offer you my very best. And it seemed that I had really nothing to offer. But about this time I attended a committee at the Lister Institute of Preventive Medicine. Visiting the laboratories after the meeting, I saw one or two women at work, and learned that they were engaged in research, and I wondered whether they were good at it. I had previously been introduced to a woman-worker in the museum of the British Medical Association last year in London and was pleased to find that some of the most beautiful microscopical exhibits had been prepared by her. The sight of these ladies interested me, and I thought I would find out whether medical research has been embraced by women to any large extent and whether they have succeeded in it or are likely to succeed in it. I am going to tell you what I have learned, but the information is very scanty and would not fill or justify an address were it not that I am anxious to direct the attention of medical women, both qualified and unqualified, to research in medicine, and that to do so will give me an opportunity of making some general remarks upon research in medicine.

RESEARCH BY OBSERVATION OR BY EXPERIMENT.

In my young days we spoke of such work as "original work," and very little encouragement was shown to it. At the present time it goes by the name of "research," and is very much in evidence and receives considerable support. The object of research is to discover something which was not previously known, or to correct or to confirm some previous observations. There are two methods of research—the one by *Observation*, the other by *Experiment*. In medical research the method by Observation is much out of fashion; it is slow and may be often interrupted for want of material. The imperfection of the material is often very disappointing. The method by Experiment (not by any means limited to experiments on animals), on the other hand, is the fashion of the day; it is quicker, less liable to be interrupted, and may yield brilliant results in a very short space of time. It is, therefore, naturally beloved of all young research workers. But it is a two-edged weapon, and needs to be used, and its results to be accepted, with great caution. Mr. Hunter, who was a confirmed and most ingenious experimenter, said in the course of his evidence at the trial of Captain Donellan: "I apprehend a great deal depends upon the mode of experiment; no man is fit to make one but those who have made many and paid attention to all the circumstances that relate to experiments."[1]

I should not trouble you with these remarks on the two methods if the young workers were the only persons who preferred experiment to observation. But it is quite otherwise. Within the last few years I was associated with Mr. Shattock, whom you know as a distinguished pathologist, in the selection of a pathologist who would be expected to engage in research for a well-known cancer institution. Mr. Shattock was insistent that the pathologist should be an experimenter, and gave me to understand that, in his opinion, clinical pathology was played out and that nothing more was to be learned from it, and that our knowledge in the future must be gained by experimental investigation.

INVESTIGATION OF CANCER.

Let me give you my experience of these two methods in the investigation of cancer. Many years ago there was great confusion in the minds of pathologists and surgeons regarding the differences and resemblances between sarcoma and carcinoma. I made a diligent study of them by observation of the cases at my hospital, the cases at other hospitals, and the cases recorded in the literature of many countries. The research was very long, very tedious, and very disappointing by reason of the small number of cases which were sufficiently recorded to be available for use. The results formed the subject of the Erasmus Wilson lectures 30 years ago, and proved that the life-history of the varieties of malignant disease does not depend merely on their structure, but upon their seat of origin, and that the varieties of malignant disease of every part of the body must be separately studied if they are to be treated with success. Observations of a similar kind have been made by other clinical pathologists, with the result that the most successful operations for cancer at the present time are based on the results of clinical pathology. For no part of the body has this been done with greater success than for the breast.

[1] Palmer's "Works of John Hunter," vol. i., p. 195. London, 1837.

Charles Moore and Mitchell Banks urged the importance of very large operations many years ago, but surgeons fought shy of them because they lacked that which was supplied many years later by Heidenhain and Styles, a scientific basis. Recently, Handley has again added valuable information on the same subject, founded on clinical and microscopical observation.

I have never engaged, personally, in experimental investigation on account of the difficulty of doing so 30 years ago. But I have been associated with the Imperial Cancer Research, and in touch with its staff from the foundation of the Research, and have been a member of the Publication Committee of all its scientific reports. It has done nothing on the lines in which observation has been so useful. It has not unfolded the life-history of a single variety of cancer so that we can base our operations on the information. It has not even discovered whether spontaneous cancer of a particular part of the body in the rat or mouse runs a similar course to spontaneous cancer of the same part of the body in the human subject. These problems are not suited for experimental investigation: they are determined by observation. On the other hand, within the space of eight or ten years it has definitely settled a matter of dispute which was discussed and fought long before I became a student, perhaps for centuries. It has proved, beyond the possibility of doubt, that cancer in its early stages is a local, not a constitutional or blood, disease. It is impossible to overrate the value of this knowledge to the surgeon. So long as he believed that cancer is in the blood and that an operation only removes the local manifestation of it, he was hopeless of the results of his operations, and removed the tumour solely to afford the patient temporary relief. Now he goes to his operation filled with hope that, if the disease is limited and in an early stage and his operation is well designed and skilfully carried out, it may be quite successful. Thus, it will be seen that the two methods, *observation* and *experiment*, have their special values in relation to cancer, that each is supplementary to the other, and that neither is fitted to take the place of the other.

THE QUESTION OF UTILITARIAN OBJECT.

It will be noticed that I have dwelt on the use to which these researches have been put in the treatment of cancer and of the value of them to human beings. You may fairly think these ought to be the immediate objects of all research in medicine and that researches which are not likely to be immediately useful should be discouraged. But while I freely admit that my sympathy is in favour of this view, I am bound also to admit that it is wholly erroneous. I have fought this question on the platform at the annual meeting of the British Medical Association on several occasions and referred to it again in July of last year, and I shall not repeat the arguments which I used or the examples to which I referred. I would merely say that the investigator should be solely interested in discovering the truth, and that his attention should not be diverted and his judgment warped by the desire that his research should terminate in a particular manner because that might seem likely to be more useful to medicine and surgery. It is notorious that some of the researches which have seemed to fulfil no useful purpose have yielded the most valuable practical results, while other researches, pursued with a useful end in view, have furnished nothing good. If a utilitarian value were considered essential to research many young investigators who have later produced the most brilliant work would have been choked off and discouraged, so that they might never have persevered in original research. I need only give two illustrious examples, Pasteur and Lister.[2] Their first researches had no utilitarian object. What a lamentable thing it would have been if they had been discouraged from research on that account. The great thing is that young people who are fitted to do so should be encouraged to search. What they search for is of comparatively small consequence. On the other hand I would not have it supposed that a utilitarian research is derogatory to the dignity of the worker or necessarily damages his *morale*. Sir Humphry Davy deliberately worked out the problem of coal-gas and explosions, and invented a safety-lamp at the urgent request of the coal-owners. Professor Pasteur investigated the nature of the pébrine disease of silkworms at the request of M. Dumas, and moved by pity at the wretched condition into which the silkworm industry had fallen. He discovered that it depended on a parasitic protozoon and devised a successful method of stamping it out.[3]

[2] The first researches of Pasteur were on the crystallisation of tartaric acid and its salts. The first researches of Lister were on the contractile tissue of the iris and on the muscular tissue of the skin.

COST OF RESEARCH.

Just a few words on the cost of research. Dr. Leonard Hill[4] pointed out some years ago what great results could be achieved by an able worker with the simplest materials and at the smallest cost, and that fine laboratories and costly apparatus are not essential to research in medicine. All this is very true, just as it is true that David killed Goliath with a stone cunningly hurled from a sling. I do not think David at the present day would sally forth with a sling to oppose a foreign host. And our profession is continually urging on the wealthy public the financial claims of research. In order to justify our demands let me give you two concrete illustrations of the cost which attends certain researches. The Imperial Cancer Research is provided with laboratory accommodation, free of rent, by the two Royal Colleges. I think we also provide heat and light and water. But the annual cost of the research, including salaries and wages, amounts to little short of £6000 a year.

A rich man of business who is interested in acoustics in relation to the human ear found that his views could not be proved unless he possessed accurate measurements of the dimensions of the cochlear passages of the ear, and that no such measurements have been recorded. In the course of last summer he wrote to ask me whether the Royal College of Surgeons of England would administer a certain sum of money which he was prepared to supply for the research and referred me to our conservator, Professor Keith, for information on the subject. Professor Keith told me it was quite a proper subject for research, and advised that my old pupil, Mr. Sydney Scott, should superintend and direct it. I was disposed to recommend the Council of the College to accept the trust. But, before doing so, I thought I should like to know whether the sum proposed by the gentleman was likely to cover the cost. If it would not, we should then be obliged to abandon the research without having obtained any tangible result, or the College might have to complete it at its own proper cost. It was well I inquired. Mr. Scott made a rough estimate for me. The material would really cost nothing. But the research involved the cutting of an immense number of sections of the bone by an expert workman, and Mr. Scott only knew one workman in London whom he would care to entrust with the work. If a single section went wrong, all the other sections made from that bone might be useless. Every fourth section must be drawn to scale. Moulds would have to be made, and this could be done only by an expert. Finally, an exact model, mathematically correct, would be constructed. Mr. Scott estimated that this research, which I had thought quite simple, might require one year or two years to carry through, and that the cost would not be likely to be less than £1000.

QUALITIES NEEDED IN AN INVESTIGATOR.

In order to determine whether women are likely to be useful and successful in research it is necessary to consider the qualities which should be looked for in an investigator—I mean, in an investigator who has the sole charge of a research, even though it be carried out in a laboratory where other persons are at work. I am not speaking of an expert assistant or even of a joint investigator.

For (1) experimental research (including experiments on

[3] Histoire d'un Savant par un Ignorant. 5me édition. Paris: J. Hetzel et Comp. P. 173. "Le Sénat fut saisi d'une pétition désolée, signée de trois mille six cents maires, conseillers municipaux et propriétaires fonciers des départements séricicoles. La grande autorité scientifique de M. Dumas, sa connaissance de l'industrie de la soie, sa sympathie pour les souffrances d'un des départements les plus frappés,—le Gard, son pays natal,—tout contribua à le faire nommer rapporteur de la commission. Pendant qu'il rédigeait son rapport, l'idée lui vint d'engager M. Pasteur à se livrer à des recherches pour conjurer l'épidémie dont personne ne pouvait triompher. M. Pasteur commença par décliner cette offre."

[4] Brit. Med. Jour., 1907, vol. i., p. 960. "Men of science are not made by institutes, money, or apparatus. Helmholtz did his best work on £120 a year, and modelled his inventions out of spectacle lenses and his wife's sewing gear. Faraday did his epoch-making work with bits of wood, glass, and wire. Claude Bernard filled his pupils with enthusiasm in a laboratory little better than a cellar."

animals) I should set down: dexterity and neatness in manipulation; a knowledge, not only of the principles, but of the practice of aseptic and antiseptic surgery; and certainly humanity, so that the experiments which are necessary should be performed with as little suffering to the animals as possible.

For (2) every kind of research I should look for personal cleanliness; cleanliness of habit; industry, which must be extended to mean continued industry; patience, and a large stock of it; perseverance, and a determination to pursue the research to the end; extreme care in observation and strict attention to detail; careful recording of observations, which should be done at the earliest possible moment; thorough belief in the importance of the particular research, amounting even to enthusiasm; conscientiousness.

Many of these desirable qualities will at once commend themselves to you: they need no more than enumeration. But you may wonder why I have set down others of them. For instance, what has cleanliness of habit to do with research provided the investigator is cleanly when at work? Well, preserve me from investigators of careless habits. How many years ago—not very many—is it since poor T—— slew himself, a servant in his mother's house, and a laboratory attendant owing to his slovenly habits? He was a distinguished classic at his university, had been a coach there, entered medicine when he was nearer 30 than 20, qualified with ease, and then settled down to make a reputation. We all liked him, and wished him well, and when he desired to engage in research encouragement was given him. Unhappily, nothing would do but he must study the bacillus of typhoid, the last thing which should have been entrusted to so slovenly a person and so clumsy a manipulator. He used to carry his cultivations of bacilli in his lunch basket, save the mark, with the disastrous finish I have described.

Again, what has conscientiousness to do with research any more than it has to do with any other of the affairs of life? Do I mean that an investigator should be honest and not appropriate or use unfairly the work of other investigators? Oh, no! I assume such honesty as this in every investigator. The conscientiousness of which I speak is of the worker to himself and his own work. In this way. A worker has been engaged in a research during many months. He has made many experiments and observations, and they have all gone to prove the correctness of the result at which he has arrived. But there is still one experiment which it would be well to try. He tries it, and curiously it does not turn out quite right. He put two and two together and they did not make four. And everyone agrees with "The Professor on the Case"[5] that two and two do make four, "not *some* times but *all* the time." Now is the moment when his conscientiousness should come into play. The temptation is overwhelming to explain the failure by some fault in technique, and to set the result of that experiment on one side rather than to repeat it again and again as he ought certainly to have done. Had he done so it would again have failed, and he would have learned in the end, not that two and two do not make four, but that one of his twos was not a two, and he would have avoided publishing that result of his research which was afterwards discovered to be incorrect by a more careful and conscientious worker. It must always be borne in mind that the mischief of a faulty result does not end with that research, but may be the starting point of a long series of equally faulty results.

FITNESS OF WOMEN FOR RESEARCH WORK.

Now, do women possess these qualities? I think so; many of them, indeed, in a higher degree than men do. Humanity, dexterity in manipulation, cleanly habits, continued industry, patience, perseverance, attention to detail: all are truly feminine qualities. Indeed, there is only one point on which I am not certain, and I express myself upon it almost reluctantly because my doubts are founded on information regarding the ways of women which it is mean of me, perhaps, to use. There is nothing more important in relation to research than the accurate recording of observations and experiments. The making of these records is very tedious; it is often inconvenient to make them at the moment, and yet many of them must be made then if they are to be relied on. Nothing is more wonderful, to my mind, than the extraordinary care which is devoted to this part of their work by the greatest investigators. Read Lord Lister's "Collected Papers"[6] and you will see that I am right. Tyndall tells that Faraday left private notes of more than 16,000 experimental researches.[7] Many men fail in this respect, largely from lack of patience. If women fail, I judge that it will largely be from lack of training. It has been told me that the lady secretaries of committees and business meetings are often astoundingly inaccurate in their minutes, that their record of those present cannot be relied on, that resolutions which were passed are not properly worded in the report, and I have even heard of minutes which recorded the wrong person in the chair; and what surprised me more than any other thing was to learn that when these inaccuracies are pointed out the secretary considers herself the aggrieved person. I am not speaking of uneducated persons, but of highly trained and even scientific women, and I wonder whether such people could ever be trusted to conduct and record an investigation. We men take these matters more seriously. Such lapses are not tolerated among us. It is of no consequence whether a secretary is paid or unpaid; he may be indolent and make very meagre records. But what he does record must be accurately recorded, and the only way to do so is to write the minutes at the time or to make ample notes from which they can afterwards be written up. We have been trained in this kind of work for centuries, and I expect it has become a part of the nature of men.

EXTENT OF RESEARCH BY WOMEN WORKERS.

Seeing the fitness of women for research, I hoped to find a good many of them at work. I can scarcely say it is so. The British Medical Association, as many of you know, awards about £300 a year in various sums to assist research workers to buy material and apparatus, but not for maintenance. The first award was made to a woman (Miss Julia Brinck) in 1890. In the 20 years since that time there have been awards to only three other women workers, and the amount of money which has been awarded to women has been £65 out of probably £6000 to £7000 total award. I do not think this is the fault of the Association, for it has always been very well disposed towards women workers. Only once has a research scholarship of the Association been held by a woman (Miss Janet Lane-Claypon in 1904), and she only held it for a year, I think because she was not qualified. But I am told that her work was so good that the committee expressed the wish that she would apply again as soon as the necessary conditions had been fulfilled.

The Brown scholarship at Cambridge (for research) has once been held by a woman. And at the present time three of the Beit Fellowships are held by women. Apart from the Mabel Webb and Helen Prideaux scholarships, which belong to your own school, and which are not sufficiently well endowed to maintain the investigator, and which can, therefore, only claim part-time work, very few research scholarships which are open to men and women have been held by women. On the other hand, there are very clear indications that the attention of women is being directed to research, and there is proof that committees and trustees are disposed to consider their claims favourably. The Brown scholarship was awarded to a woman only as recently as 1909. Twelve women applied for Beit Fellowships, and three of them have been appointed—one in 1910, the other two this year. The Worshipful Company of Grocers has quite recently permitted women to apply for its two research scholarships (each worth £300 per annum). One woman has already applied, but her application did not fulfil the essential conditions. I trust this address may direct the attention of women still further towards research work.

I have no doubt I shall be asked whether I believe that women will be found competent for research, whether they have the breadth of mind necessary for such work, and whether they will ever be able to do more than carry out researches which have been designed for them and in which

[5] "The Professor on the Case," Jacques Futrelle (T. Nelson and Sons), p. 25.

[6] "The Collected Papers of Joseph, Baron Lister." Oxford, 1909.

[7] "Faraday as a Discoverer," new edition, London, 1870, p. 182. "His mode of keeping accounts excited the admiration of the managing board of this institution (the Royal Institution). And his science was similarly ordered. In his experimental researches, he numbered every paragraph and welded their various parts together by incessant reference. His private notes of the experimental researches, which are happily preserved, are similarly numbered; their last paragraph bears the figure 16,041."

they are directed. Indeed, I do not know. They have done so many things in the last 30 years that I never thought they could do, that I would not on any account venture to predict what they will accomplish in research. But I should certainly like to see them try.

Introductory Address
ON
LUCIDITY.

Delivered at St. George's Hospital Medical School on Oct. 2nd, 1911,

BY H. A. MIERS, D.Sc., F.R.S.,
PRINCIPAL OF THE UNIVERSITY OF LONDON.

GENTLEMEN,—Some of the most difficult problems in education are those connected with professional training, and as time goes on these do not tend, I fear, to become more easy. The requirements of the professions become every year more exacting; if the student is to get to work on the business of life before his grey hairs appear he is driven to begin his professional training earlier and to compress more and more into the few years at his disposal. And so it becomes increasingly difficult to secure in addition that general education which everyone knows to be so desirable—that introduction to the world of literature, science, and art which ought to be more useful perhaps to the medical man than to the member of almost any profession.

I confess that up to the present time medical men have held their own in a marvellous manner as students and exponents of all that makes up general culture, and that judged, at any rate, by the standard of their leading men they have managed to keep their wider interests and activities flourishing and fruitful in spite of the exacting calls of a strenuous profession and the years of very special study by which it has to be preceded.

If I may quote only one example of local significance, the annual exhibition of paintings by the St. George's Hospital staff used to give abundant evidence that even within the walls of a single hospital quite a number of accomplished physicians and surgeons may prove themselves to be equally accomplished as artists. But whether this is to continue, whether the increasing pressure of professional training, and the overcrowded nature of the school curriculum which comes before it, are not going to rob the medical man of some of his literary and artistic interests and powers, I should not venture to predict. The serious business of fighting disease, and the necessity of mastering all the weapons with which the never-ceasing contest is to be waged, are making the medical man's life one of such grim earnest that he will perhaps have in the future even less opportunities than he has now for those more refined studies and pursuits that presuppose some leisure and freedom of mind.

I wish, however, on the present occasion to draw attention to one feature of modern school and university life that represents a more serious defect, or at any rate the danger of a defect, in the medical profession; and not only in this, but in the other professions; may be not only in professions, but in all walks of life. It is, perhaps, not a matter of serious importance to the world at large whether a medical man can give expression to his ideas with the brush or pencil, provided that he be sufficiently learned and accomplished in the exercise of his calling; he is not necessarily a better doctor because he possesses and can exercise this artistic gift; neither is it necessary that he should have the powers of expression of an author or a musician. But there is need of one power that is as important to him as to others, and that is the ability to express his meaning in the written words of his own language, the great power resulting from mastery over the pen.

LACK OF CLEARNESS IN WRITTEN LANGUAGE AND ITS CAUSES.

I am led to choose this as a subject on which to address you, not merely from the want of anything new to say, but because it has been borne in upon me as a serious matter by the reports of some of our examiners in the University of London. They say that in medical examinations and even in the M.D. examination an essay or thesis is often not only devoid of any literary quality or finish, but is badly constructed and difficult to understand. If this can be so at the end of a man's university career, what must it have been at the beginning, and is there any chance of its becoming any better as he grows older? I do not think that the fault is entirely that of the candidates themselves. Whatever subjects they may have learnt at preparatory or public schools, the writing of their own language has in general not been one of them; even during their university career the use of the written English language, except as a machine for the taking of notes, or the answering of examination questions, or the bare record of work done, has not formed any regular part of their course.

The proper teaching of English at school is a large and important subject, and one on which I do not propose to enter at present; the acquisition of a good literary style is a luxury to which all cannot aspire; to which, indeed, comparatively few can attain; but the power of expressing clearly one's own ideas in one's own language is a thing which ought now to be within reach of every English-speaking man and woman. That so many of us do not possess it, even those who are quite well educated and accomplished persons, is due, I think, not so much to the fact that we have not been properly taught as to the fact that we have not been encouraged to teach ourselves. To me it has always seemed remarkable that while there are few who fail to express their meaning intelligibly by the spoken word, there are so many who fail to be intelligible when they write. The two faculties seem quite disconnected, and there is apparently nothing which necessarily makes the same person a good speaker and a good writer. Among those who are inarticulate in speech, and little able to convey their meaning in simple straightforward sentences, are to be found some both thoughtful and learned persons to whom writing seems the only proper and easy medium of expression. And, on the other hand, everyone must be familiar with examples of clever and accomplished speakers who lose all their power of expression when they write. And, more strange still, mastery over another language and ease of diction in a foreign tongue may exist side by side with the inability to write or to speak clearly in the mother tongue. I have known Englishmen who could be trusted to write a more intelligible treatise, possibly even to make a more lucid speech, in Latin than in English. Quite seriously, I think some part of the cause is to be sought in the difficulty of our language, and many educated persons get lost in its intricacies just as they get lost in its spelling. One must, of course, realise that the same wealth of vocabulary and variety of construction which make the language difficult bestow upon it the greatest possibilities in the matter of style. But for this very reason I do not believe that the remedy for the defect of which complaint is made is to be found in the imitation of great authors.

INUTILITY OF STUDY OF GREAT AUTHORS.

It is often assumed that constant reading and imitation of the great masters of English literature will enable one to acquire a style which is good because it is based upon theirs. John Bright and Professor Tyndall, to mention only two among many, attributed much of their own command of language to the fact that they had early in life been made familiar with the English Bible and the works of Milton, and that they had maintained their knowledge of these masterpieces of style through life. But I think it will be found that they had both already, by another process to which I will presently direct your attention, acquired the power of expressing themselves in straightforward English, the one in speaking, the other in writing, at an early stage of their career; and it is to such persons, already so equipped, that the profound and unceasing study of the great authors brings an increasing mastery over the difficulties of the English language. To introduce a child to the great masters of style with the injunction that he is to learn to copy them and by so doing to acquire something of their power, is like expecting an artist to acquire the power of expressing himself by nothing but a course of copying in the picture galleries without independent effort. Listening to good music will not make a musician.

Although the systematic study of great authors is usefully pursued at schools, yet the usual methods of teaching English still leave the average boy and girl singularly deficient in the art of saying what they mean on paper. Now

people like ourselves, who have more or less finished our education, are not going to get very much more out of it than children, who in these matters are far more ready and apt pupils than ourselves, being of course more imitative and quicker to learn. Except to those who have already acquired in some measure the faculty of expressing themselves *in their own way*, indifferent though that may be, I do not think that the mere study of authors who possess a great style is going to confer upon the ordinary reader any great power to express himself in the manner of those authors.

I am inclined to believe that the attempt to write good English is to many a person an effort that only makes him sink the deeper into the quicksands of unintelligibility. For think what this effort means. Analyse the style of Ruskin or Stevenson, of Macaulay or Burke, of Pater or De Quincey; how is a reader who has not yet learnt to make himself intelligible to improve matters by imitating the delicate shades of expression, the fine suggestions, the haunting echoes, the persuasive rhythm of their sentences? Any one of us may admire the consummate skill of such authors just as we may admire the workmanship and the art of a painter without being able to paint a stroke ourselves; or still more easily perhaps the beautiful creations of a musician although we cannot write a note of music. Before even the young artist who possesses some natural gift can emulate these, he must go through a long apprenticeship. And our great authors are artists in words whom it may not even be desirable for us to emulate. For the difference is that whereas we cannot all be painters and musicians, but must content ourselves with remaining intelligent admirers and critics, we have perforce all to be writers, whether we wish it or no, and our writing will be necessarily either good or bad or indifferent.

How to Learn to Write Clearly.

What, then, is the necessary foundation which I have been so long suggesting without naming, which is to be secured as the basis before the delicate structure of good style can be firmly erected? It is simply this—that we should think about expressing our own meaning in absolutely clear and intelligible language before we think about the manner in which that language is to be manipulated or the style in which the meaning is to be conveyed. To express some thought of one's own in language which cannot be misunderstood and which makes it quite clear to others is an extremely difficult task; it is one of the things which is least satisfactorily taught at school and at the university; it is one which has been least effectively acquired by most people among all the necessary things that they have to do in life. You have only to read carefully the letters in the newspapers from people who write both, I presume, because they think they have something to say, and because they think they can write, to be convinced that what I say is no exaggeration. And then think of the thousands of people who do not write to the newspapers, and in fact do not write at all if they can help it, because they know that they are not able to do so with any credit to themselves.

One of the best educational exercises possible in the use of the English language is to take one of these letters and analyse it, and show a child, or for the matter of that a grown person, how it fails to make its meaning clear, how in some cases the words may have two meanings and in others no meaning at all. Let me quote a recent example from a daily paper. "It surely should not be possible for an individual to destroy the trade of a town with which he has no connexion other than as the organiser of a society claiming a general right of interference by practically compelling the permanent closing of industries in which there was before his coming, no actual dispute or necessity for interference except in virtue of this society's claim." I have purposely chosen a sentence in which there is nothing really wrong except that it is not clear, so that you must read it at least twice before you can discover what it means. But this is, after all, only criticism, and, as I have said, we are condemned to be not only critics but users of words. And so a much better educational exercise is to get your pupil to write something of his own, and to criticise that in the same manner. Only so will he understand the difficulties by practice and learn to profit by experience. Some of the best learning in the world is done by making mistakes, and in no subject is this method so effective as in the writing of one's own language.

Defects of Present System of Teaching Composition.

How is the practice of composition actually taught? Set essays are written and corrected, or a subject is prescribed and the pupil's account of it is criticised. But I suspect that the criticisms are more often directed to the wrong use of words, to faults of grammar, to defects of style, than to the question of prime importance—namely, intelligibility. And yet a split infinitive is really a far less important fault than a failure to express one's meaning. Translation ought, one would think, to be a good exercise, for here an effort is made to interpret the ideas of a foreign author into one's own language; yet translation fails to a large extent, because, after all, they are the ideas of another person which the pupil is called on to express. And so the result is that more attention is paid to the style and the manner than to the intelligibility, and a generation grows up that has never been called upon to make its own meaning clear to anyone. This result is particularly to be feared and is particularly noticeable in professional training. I can assure you that I have recently had appeals both from young officers in the army themselves and from others on their behalf asking how and where they are to learn to write clear and intelligible reports. For reports they have to write in the exercise of their profession, and these, if they are not clear, fail, of course, in the whole object and purpose of a report. Too late have such persons found out that they have never learnt how to express themselves in simple and clear language. Surely this is the very thing that should have been learnt in early school days.

And now we hear the same complaint from the examiners of medical candidates. The difficulty is particularly acute with those who, like yourselves, have received a scientific education. I have actually heard teachers and examiners in scientific subjects say of a pupil or examinee that he evidently understands what he is trying to say, but is merely unable to express his meaning. And then they have given him full credit for the knowledge and pardoned him the failure to express it. But surely to be inarticulate on paper is as bad as to be inarticulate in speech. And I can never believe that the man whose ideas are clear can be permanently incapacitated from expressing those ideas intelligibly with his pen. If, however, our scientific teachers and examiners do not insist upon the clear expression of scientific statements which ought more than anything to lend themselves to clear exposition, perhaps the fault is to be laid to their charge. The quality which I believe we have to seek, one which is so little fostered by our present system of teaching English, is, to put it in a single word—Lucidity.

Lucidity in Great Writers.

Among the great writers, those who impress us most both by what they have to say and by the manner in which they say it, are those who possess this admirable quality of lucidity. As two pre-eminent examples among the moderns, I may mention Cardinal Newman and Charles Darwin—in very different ways; for in the one it amounts to the highest perfection of style, while in the other it appears to involve rather an absence of style. Newman's limpid passages with all their grace possess the very essence of clear and lucid exposition; analyse any one of these passages and it appears to exhibit nothing but the most direct simplicity. If this be art, it is the art of a Duse which is almost indistinguishable from unaffected nature. He who possesses such lucidity may graft upon it the style of Milton, or Gibbon, or Ruskin, or Burke, and not much will be either gained or lost; of course, a beautiful style confers an additional charm upon all writing; and a page of Newman is better reading than a page of Darwin.

I am aware that lucidity is a word which was originally applied to the mind and only subsequently to literary expression. When the shadow was lifted temporarily from the clouded mind and the sunshine of reason returned it was said of the patient in the old legal phraseology: "Non est compos mentis sed gaudet lucidis intervallis," and the history of the word is instructive, for it is still the lucidity of mind which has to come before there can be lucidity of expression. There cannot be clear writing without clear thinking; and he who learns to write clearly will in the process learn to think clearly.

Necessity of Intelligent Self-criticism.

Now if I have, up to the present, done little more than deplore the absence of this quality, I do not mean to imply

that the only remedy lies in a reformation of our methods of teaching English at school, highly desirable as this may be. I believe that lucidity of expression is one of those things which can be acquired without teaching and by learning alone; further, that the only learning necessary is constant practice accompanied by intelligent self-criticism. We are too apt to be satisfied with the words in which we express ourselves without pausing to think whether they are intelligible. Take something which you have written and show it to any candid and discerning friend for his criticism, and see whether he does not find in it some flaw that is not at first apparent to yourself. He will tell you the same story as the examiners who look over your thesis, that the words do not say what you mean, and that the expression is in some way or other loose and unintelligible. It is very difficult at first to criticise what we have written ourselves—but the faculty is soon acquired. In ordinary life—since it was not made necessary for us at school—we have so little practice in this useful art. The only occasions when most of us have to weigh our words carefully in order that we may be quite sure that they will not be misunderstood are when we have to compose a telegram, or to draft a resolution or an amendment at some meeting; and everyone knows how difficult this is. Believe me, the same care is really necessary in anything that we write if it is to stand the test of criticism. The most wholesome experience of all is to have written a book, or an article in a journal, and to see your words staring you in the face in print and to realise too late how inadequate they are, and that they remain in print to condemn the author for all time. For the rest, the hasty letter is all that most people have in the way of practice, and the telephone is rapidly making this less and less necessary.

I have said elsewhere that the reason why our grandfathers and grandmothers could express themselves so much better than ourselves is, in my opinion, the fact that they had so much more practice in letter-writing, and that the letter was so much more important in their day than in ours. With the disappearance of the long, infrequent, carefully written letter, which would often be criticised at its destination by many eager readers, a great field of literary practice has been removed and has had no successor. If this be true—and it is the reason why I have been led to believe that the present defect is chiefly due to want of practice—then the remedy is simple: constant practice in careful writing. It is this which makes most people more ready with their tongues than with their pen; they get more constant practice in speaking than in writing, and they are liable to be constantly called upon to explain themselves if their meaning is not clear. If this check were always ready to be applied to all that is written as to all that is spoken half the difficulty would disappear.

VALUE OF CONSTANT PRACTICE IN LUCID WRITING.

It has always seemed to me that one of the chief reasons why practice is so necessary in both speaking and writing is that the thoughts flow at so different a pace from that of speech or the pen. Many inexperienced speakers are constantly being tripped up in their words in the endeavour to keep pace with their own thoughts, trying to retain a hold upon the swift thought while they are following it in less rapid speech. If this be so with speaking, still more must it be true with writing, where the hand and pen lag behind at a yet greater distance. I confess that writing has always been, and is even now, a slow, clumsy, and laborious process for getting a permanent record of our swiftly moving and evanescent thoughts, and that there is need of something better; it may be that the phonograph and dictaphone will ultimately make it unnecessary to transcribe in our present slow and laborious fashion, and I for one would welcome any scientific inventions which will make it easier for our recording instruments to keep pace with the mind. But I venture also to believe that for accurate thinking it is not a bad thing to have this drag upon the brain, and that to school the mind to keep pace with the pen is an excellent training for exact thought. And so I return to my suggestion that in order to remove this reproach from which the present generation suffers, which attaches particularly to professional students, and not least among them to medical men, we have to exercise ourselves constantly in the practice of lucid thinking by exercising ourselves in the practice of lucid writing. Schools and universities have their debating clubs and societies in which anyone can get valuable practice in speaking, and learn by experience to express himself fluently and clearly, and suffer for his sins if he does not do so. It is a pity that there are no societies which give a young man precisely the same valuable training in the use of the pen; and if any school or college will introduce a fashion for this sort of thing I believe that a great public service will be done. There was a time when the magazines were addicted to symposia, and induced prominent authors to take part in a written discussion on some topic of general interest; then one could at any rate see how accomplished masters of the art could wield the pen. A better thing would have been for the readers to do it themselves, just as it is a better thing to play cricket and football than merely to look on at cricket and football matches. Failing this, there is a course which everyone may easily pursue, and that is to get in the habit of seeing that every sentence which he is called upon to write is lucid; and the best way of acquiring this faculty is to keep what you have written and read it again in the cold light of reason, and when your mind is not full of the subject as it was when you wrote.

Most of the failures to be lucid are due to the habit of confusing what we think with what we write, and to imagine that because a thing is in the mind it is also on the paper. It is a common experience that in some respects and for the minor errors an author is the worst person to correct his own proofs; he knows what he meant to write, and he actually thinks that it is there and fails to see the mistake. In the same way each man is a bad critic of his own writing. This is the reason why I began by suggesting that you should first get a candid friend to be your critic; and, failing him, this is why I suggest that you should read the written page at some time when you are not biased by thinking of the subject rather than the manner in which it is expressed.

SCIENTIFIC WRITINGS.

The worst sinners of all are some of the scientific writers, and it is a standing reproach to science that at this period of its existence it is marred by so many ill-written, ill-constructed, and unintelligible books and papers. It was fortunate that in the earlier days of the great movement in the last century science enjoyed the aid of so many excellent writers. Davy, Faraday, Lyell, Darwin were such clear thinkers that they could not fail to be clear writers; but it was well also that somewhat later the public ear was caught by such graceful and skilful writers as Tyndall and Huxley. With them we find lucidity coupled with the graces of style, and since their day there have been many accomplished authors who have managed to make a text-book or an abstruse memoir delightful by their powers of expression. Even a mathematical text-book may charm by its manner—witness those of Dr. Salmon, who was equally accomplished as a mathematician and a theologian; and Clerk Maxwell showed in his little book, "Matter and Motion," how the most advanced mathematical reasoning can be expressed in the most simple and lucid language. In the same way was not Gladstone able to invest a Budget speech with a certain literary charm?

Among scientific books it is, curiously enough, some of the translations which fail most ignominiously in the attempt to be lucid. Let me quote an example from the translation of a very well-known text-book which in its original language is quite clear and intelligible.

> The successful scrutiny of the student of nature reveals itself in finding out that which phenomena, apparently very diverse, have in common, and the results are the more brilliant, as the parallelised phenomena appear at the outset more diverse. The transference of observations from one case to another is naturally at first attended with some uncertainty, but with the repeated corroboration of the experiences in question there follows an ever-growing credibility until this transference finally attains to the rank of an empirical law of Nature.

I believe this simply means that a law of nature is exhibited by comparing different natural events and finding what is common to them. The meaning of the sentence is entirely obscured by the introduction of unnecessary words. You will see that the fault here and in similar instances, which might be quoted by the hundred, is that the translator in the endeavour to make his version sound well, knowing that the sense has been provided by the author and that he is not responsible for that, has even inverted the perverted maxim of "Alice in Wonderland," and adopted for his

guide, "Take care of the sound and the sense will take care of itself." Rather than incur the danger of falling into such bad habits let us, with Berowne in *Love's Labour's Lost*, decide to express ourselves, "In russet yeas and honest kersey noes."

In the days of the scientific revival of the nineteenth century the great expositors who wrote with such admirable lucidity did much to facilitate the introduction of science into ordinary education, for it appeared, as indeed was really the case, that the accurate habits of thought encouraged by the study of science found their expression in this clear writing, and this led many people to see that the study of science, like that of philosophy, is an education in clear thinking. But now that much of the scientific writing is so badly expressed there is danger lest the opposite conclusion be drawn, and the impression is conveyed that the studies which lead to such loose writing cannot really be conducive to accurate and clear thought.

Let me, then, in the interests of science in general, and of medical science in particular, if it is to earn the respect of the multitude, in your own interests if you wish to acquire habits of exact thought and so to become leaders in the advance of medical science, repeat my suggestion that you should by constant practice in everything that you write, by constant and critical inquiry whether its meaning is clear, cultivate the desirable quality of lucidity.

Introductory Address
ON
THE MIDDLESEX HOSPITAL OF TO-DAY AND YESTERDAY: A BIRD'S-EYE VIEW.

Delivered at the Opening of the Winter Session at Middlesex Hospital on Oct. 2nd, 1911,

BY COMYNS BERKELEY, M.A., M.D.,
B.C. CANTAB., F.R.C.P. LOND.,
OBSTETRIC AND GYNÆCOLOGICAL SURGEON TO THE HOSPITAL, ETC.

YOUR ROYAL HIGHNESS, YOUR SERENE HIGHNESS, LADIES, AND GENTLEMEN,—Twenty-four years ago I entered this hospital as a University student and heard my first Introductory Address. What struck me then was the entire absence of any reference to the history of the place I had joined. I was told that this was the great day of the year. I remembered that at Cambridge *our* great day had been Founder's Day, on which year after year through centuries a brief history of the College had been recited and its benefactors extolled, but the lecturer on this occasion evidently did not think the new students would be sufficiently interested by some similar recital. As this deficiency has not been rectified by any of the succeeding 22 addresses I have listened to, I propose this afternoon to give you a bird's-eye view of what has happened to our hospital during the past 166 years.

FOUNDATION OF THE MIDDLESEX HOSPITAL.

Up to the year 1720 there were only two hospitals in London—St. Bartholomew's, founded in 1123, and St. Thomas's, founded in the reign of Edward VI. In 1720 Westminster Hospital was established; in 1721 Thomas Guy built his famous hospital in the Borough; in 1733 St. George's was erected at Hyde Park on the outskirts of the town; and in 1740 the London Hospital first took shape in Whitechapel Fields. It thus came about that the several parts of London were supplied with a hospital except one, and that was the district of St. Giles and Soho, a thickly populated quarter "abounding with poor objects." The inhabitants of this quarter therefore decided to found a hospital for the relief of their sick and lame, and in August, 1745, two houses in Windmill-street were acquired from a Mr. Goodge at a yearly rental of £30, the institution being christened the "Middlesex Infirmary." A year later the name was changed to "The Middlesex Hospital," and it was further decided that its government should be vested in annual subscribers of £3 3*s.*, to be called "governors," which qualification obtains to the present day. It was also ordered that no pupil or apprentice should be permitted to attend the practice in the hospital without the permission and approbation of the weekly board. Accordingly, Mr. Hamilton, one of the surgeons, presented Lucas Everard Greenhead as his apprentice, who consequently became the first Middlesex student; and later, when the number of dressers, as they were now termed, increased, rules were drawn up for their behaviour, among which we find that they were not to stay in the hospital after they had finished their work, were not to swear, make noises, or embezzle the medicine.

Soon after the infirmary was started some of the lay officials got into trouble owing to its exposed position. The matron was strictly enjoined to lock the door at 11 P.M., and later was dismissed because, with the messenger, she had not acquainted the committee of several irregularities committed by others to the great disrepute of the hospital. The apothecary is stated to have "committed actions vile and enormous," the behaviour of the patients became so bad that it was proposed to give the steward the power of suspending their diet as a punishment, and the following regulations were made: "That no patient should talk to anyone in the street. That patients should not presume to talk to one another after 9 P.M. That liquors should not be brought into the hospital without leave of the steward." The number of beds when the building was first acquired is not mentioned, but they soon became very overcrowded, and as apparently two patients had sometimes been put into one bed rules were drawn up limiting the number of in-patients to the number of beds. In 1747 it was decided that 15 beds should be the standard for the future, that five of these should be reserved for lying-in cases, and that Dr. Layard should be appointed man-midwife in ordinary. One pound of pins and two pincushions were ordered for the department and a nurse hired at a salary of £8 a year.

FIRST LYING-IN HOSPITAL IN ENGLAND.

This reservation of beds for maternity cases is very interesting, inasmuch as by it the Middlesex Hospital became the first lying-in hospital in England, and, further, this department became so popular that it was both at the same time nearly the means of ruining the old hospital and also the means of getting the present one built. Apparently the weekly board must have thought the obstetric officers of those times a grasping lot, since they were very careful when apportioning the five beds to make the following minute which states that "as it was apprehended that the novelty of the scheme might in future tempt the governors of that part of the charity to endeavour to convert the whole hospital to the use of that branch only, it was agreed that a third part of the beds and no more should be applied for that purpose, leaving for the sick and lame a third part each," which agreement was then thought so equal and just that the obstetric physician declared his entire approbation and gave his honour he would never attempt in anywise to injure that part of the charity devoted to the sick and lame, nor deviate from this equal proportion then agreed to. But, alas for the frailty of human nature, two years later the obstetric physician, backed by the senior physician and abetted by the chaplain, plotted to convert the hospital into one for maternity cases only. On the plot being discovered the two physicians resigned, as also did the president, whilst the secretary, matron, steward, and messenger were discharged. Nevertheless, so anxious was the weekly board to please everyone it increased the number of beds from 18 to 24, and set aside 10 for the maternity cases. Even this, however, did not satisfy the late senior physician, who set to work to try to ruin the hospital, as did also the treasurer, who refused to receive subscriptions or account for those he had till his successor was appointed. It was then resolved that half the beds in the hospital should be reserved for maternity cases, which the late obstetric physician thought so reasonable that he agreed to rejoin the staff, giving his word of honour to be satisfied. However, a fortnight later something again seems to have upset him and he resigned for good.

INCEPTION OF PRESENT BUILDING.

The additional beds being insufficient to cope with the number of maternity cases, a room had often to be hired in the neighbourhood and so it was decided that a new hospital must be built. Our present building, therefore, really owes its inception to the popularity of the obstetric officers, maternity nurses, and the lying-in department of 159 years ago. The weekly board was also very anxious for a

new hospital as it badly wanted a board room, its meetings up to then having been held in the "Bear and Rummer," a tavern still standing almost opposite the hospital. In 1754 a piece of ground in the Marylebone Fields was acquired from Mr. Berners for a term of 999 years at the rent of 2*s.* for every foot in front of the said ground.

The piece of land in question whereon this afternoon we are gathered was quite on the outskirts of the town, and was a favourite place for snipe shooting, being separated from Tottenham Court-road by ponds and marshy lands, whilst just to the north of it was the "Farthing Pie House," the last place of refreshment for travellers before they disappeared into the country, and later replaced by the "Green Man," still standing opposite Portland-road Station, which now supplies refreshment for travellers before they disappear into the "Tube."

On June 15th, 1755, the foundation-stone was laid by the Earl of Northumberland, assisted by the vice-presidents and governors, who, after having attended the anniversary service at St. Ann's Church, walked by way of Dean-street across Oxford-street and up Newman-street to the Marylebone Fields for that purpose. A Mr. Gray had contracted to build the hospital for £2250, and during the next year or so the building committee was very hard pressed to find the necessary money. The theatrical profession came to the rescue, as it has done on so many occasions since, and David Garrick gave the receipts of two performances, choosing on the last occasion *Much Ado About Nothing* as being a favourite play with the ladies. At last in 1757 64 beds were ready for the reception of patients. The hospital is described as being a "neat, plain, and not inelegant red brick building having the decent appearance and all the accommodation one could wish in a house devoted to charity without that ostentatious magnificence which too often in a great measure defeats the humane and noble end of such pious and charitable institutions where those sums are squandered in useless decorations that ought to be employed in administering health to the sick and giving feet to the lame." Our hospital was first of all built without the present wings and was not quite so complete as the descriptions of it would have us believe, since an operating theatre had not been included. This omission was rectified four years later and one provided on the top storey.

EVENTS IN THE EARLY HISTORY OF THE HOSPITAL.

In 1757 the office of house surgeon was created, the first gentleman to hold that post being Joseph Barker. In 1762, the hospital being in a flourishing condition, it was decided to take steps for building the west wing. At this time also the weekly board made a bargain with a gentleman named Legrand, 74 years of age, wherein for a legacy of £600 it agreed to let him reside in the hospital and to provide him "with all necessaries during the time of his natural life," a questionable bargain since he lived for eight years.

In 1763, owing to the number of maternity patients, the obstetric officers decided to attend some of those women in their own homes. In 1770 the west wing was finished but only the ground floor opened. In 1774 the students of the hospital formed themselves into a medical society and asked for the use of the physician's room for their meetings. The board unanimously agreed to the proposal "provided that the society would be at the expense of their own candles." Thus arose the oldest medical society in England, which at the present day flourishes more vigorously than ever, meets in the same room, and the governors kindly pay for the electric light.

In 1777 the treasurer was directed to obtain an estimate for laying out the waste ground at the back of the hospital "either as a garden for pot-herbs, for a drying ground, or for walks for the patients to whose health such air may be conducive." Three years later the ground was ploughed and cropped with potatoes and French beans, but after five years the board gave up market-gardening as hopeless, and in 1785 poplars were planted and grass-plots sown, the collector of the hospital undertaking for the sum of £5 and the hay to look after the garden.

In 1780 the east wing was completed but remained empty for want of funds. Three years later, the finances of the hospital being still depressed, some additional wards were closed and the maternity beds were reduced from 34 to six, and they were further reduced in 1786 to two for similar reasons. In this year also midwives were appointed to attend patients in their own homes under the supervision of the obstetric physician, he being granted the sum of 5*s.* per case to defray the charge of midwife, coach hire, and other individual expenses. The same custom has obtained up to recently except that the physician did not get the 5*s.*

In 1789 Howard, the philanthropist, was constrained to severely criticise the weekly board for keeping the hospital so dirty. The board thought fit to reply in a circular which stated that the criticism was most unjust and "that they would be much honoured by another visit from Mr. Howard, who, they flatter themselves, will in a future publication expiate his ill-impression by a true description." Erasmus Wilson remarks that in anticipation of such a visit, conjoined possibly with the still small voice of conscience, great activity followed this circular, and quite sufficient was ordered to be done to prove that Mr. Howard's strictures were not without foundation.

In 1790 the wards for the male and female patients were arranged on opposite sides of the hospital, a custom that has just been changed by the inauguration of the "linked-ward system."

In 1792 the Cancer Charity, an institution of much importance in relation with the Middlesex Hospital, was founded in this wise. Mr. Howard, a surgeon of Argyll-street, appeared at the board and informed the governors that a friend wished to contribute £3000 towards establishing a fund to endow a ward for the reception of persons afflicted with this disorder. The offer was gratefully accepted, and on the death of the founder it transpired that he was Samuel Whitbread.

In 1793 a ward was set apart for the reception of French clergy driven into exile by the Revolution. Each inmate had to contribute 8*s.* a week exclusive of burial fees, nurses' wages, and bedding, which were to be provided by a relief committee. The refugees occupied the ward 14 years and on leaving gave their bedding and mattresses to the hospital as a thankoffering.

In 1796 that most important part of a hospital, the medical school, was first mooted and wards were allocated for a chemical laboratory and lecture theatre.

In 1800 our hospital was suffering severely from the effects of the war, and, owing to the great scarcity of every article of life, the treasurer requested the gentlemen of the board room table to abstain from their allowance of fresh butter, and the nurses and servants were each limited to half a pound of butter and one pound of cheese per week. The allowance of bread was also reduced to one quartern loaf in seven days for everyone in the hospital as being in strict conformity with the commands of His Majesty to his subjects in general, and linseed meal was substituted for bread in the poultices, but as the meat was often bad, the beer undrinkable, and potatoes scarce, the servants struck, and were consequently given in addition a small allowance of rice. In 1807, with a view to further economies, the remaining maternity beds were abolished.

In 1809 the board came to the conclusion that an annual dinner would conduce to the interests of the hospital, and, for all I know to the contrary, the dinner to-night will be the 104th consecutive one of its kind.

In 1812 the Samaritan Fund was proposed by Mr. Cartwright, one of the surgeons, its object being to afford temporary assistance to poor convalescent patients, to forward patients, especially cripples, to their homes, and to supply flannel, linen, and other necessaries.

In 1815 there were 179 beds in the hospital, and that the management and treatment were the best of their kind at this time is evidenced from an anonymous donation of £10 to the funds of the hospital by one who had read a review of a French traveller's tour in Great Britain as follows: "The traveller is now taken to one of the public hospitals of which he gives no very favourable account. We fear that his statement as far as it relates to one or two of these receptacles for human misery is but too true ..... but could we indeed have carried our traveller to the Middlesex Hospital he would have witnessed that benevolence of manner and that delicacy of attention exercised by all the medical attendants even to the poorest of their patients which imparts a charm to the powers of medicine and disarms sickness itself of half its anguish. The poor have feelings in disease no less than the rich, fortunately indeed for them not so tremblingly fastidious, but sufficiently acute to animate the exertions of humanity and to repress the

insolence of vulgar brutality." And what was true of the Middlesex Hospital nearly 100 years ago is, I hope, trust, and believe, true of the Middlesex Hospital to-day, and as an indication of its popularity with patients, I find in the report of King Edward's Fund, just issued, that whereas the average daily number of unoccupied beds in the 16 largest hospitals in London was 12 per cent, the average number at Middlesex was only 4·7 per cent.; and further, we have always a long waiting list, so that on one historical day this summer there were over 250 patients waiting for admission, and what perhaps was more striking still, was that the vast bulk of these patients seemed to be clamouring for operative treatment, a compliment to both our surgeons and physicians—to the surgeons for obvious reasons, to the physicians as showing that they cured the medical patients so quickly there were hardly any waiting for admission.

In 1821 the weekly board, ever ready as far as they could to prevent waste and extravagance, appointed a committee to inquire into the hospital expenditure, which reported that the consumption of drugs had increased very much because the surgeons had taken to ordering their patients medicine, and that the cost of the medicine had also increased because the physicians were fond of trying new and expensive drugs which the board did not think should be given to patients in a charitable institution. I have heard such criticism even in the twentieth century. The apothecary also had been reckless with the leeches, doling them out at about the rate of a hundred a day, so that during the year under discussion he had bought 36,100 of this annelida. The board rightly viewed such extravagance with much disfavour and ordered that, in the future, after the leeches had been used, they should be properly preserved for further applications. The amount of wine consumed seemed to puzzle the committee, which could only refer the matter to the medical gentlemen for an explanation. As the late matron had given the extra nurses meat in lieu of their wages and had doubled its supply to the regular nurses, the committee was not surprised that the amount of this commodity had likewise increased.

In 1824 several other wards were opened and the total number of beds increased to 200.

In 1828 London University, now known as University College, was established in Gower-street; thereupon, and during this year and the next, repeated overtures were made to the governors of the Middlesex Hospital for amalgamation, and, as our board was then in need of funds, the University offered to subscribe £3000. The governors, however, would have none of it, first of all, because the founders of the University had advertised in the *Times* suggesting that Middlesex Hospital was affiliated to it; and, secondly, the governors thought that if they joined an unsectarian university they would lose a large number of subscribers. In 1834 the wings of the hospital were extended some 30 feet, thus increasing the number of beds to 240.

INSTITUTION OF THE MEDICAL SCHOOL.

1835 may be regarded as the second most important date in the history of the Middlesex Hospital, the chairman at the annual dinner announcing that it had been decided to build a medical school on the ground belonging to the hospital. The staff had pointed out that until the celebrated school of medicine in Windmill-street had been eclipsed by London University building its own hospital there had been no lack of pupils, but that now the number of pupils had seriously decreased, "that hospitals by furnishing the means and materials of medical education were capable of yielding indirect and incidental advantages to the public far outweighing in extent and importance the personal benefits they offer to the direct objects of their charity," and that "through the hundreds of young men who were taught in the hospitals the great consolation to be derived from judicious medical and surgical aid is afterwards extended to thousands in all parts of the country and in every rank of society. It is not, perhaps, sufficiently recognised that the judgment and skill to which every man in periods of sickness and danger is glad to confide his life and the lives of those most dear to him have been acquired in the first instance in the wards of a hospital." Further, a medical school attached to a hospital is of the greatest advantage to the patients themselves, since "it surrounds the medical staff with a crowd of watchful, inquiring, and often very highly intelligent observers who expect an explanation of the various diseases they witness and a reason for the treatment applied to them"; and yet with full knowledge of all this we have recently had ill-advised, though doubtless well-meaning, people advocating successfully that the medical schools must not receive financial aid of any kind from the hospitals.

FURTHER DEVELOPMENTS.

In 1838 the operating-theatre was transferred to its present position, the space thus left vacant being converted into a ward now known as "King's Ward." Another indication of the debt we owe to the obstetric side of this hospital is instanced in the foundation of our museum, the nucleus of which consisted of specimens, some 660 in number, collected by the then obstetric physician and acquired after his death in 1839. In 1840 the porch of the hospital was built at a cost of £100, and four years later the out-patient department was enlarged by advancing the ground floor of the east wing to the railings.

In 1843 a charter of incorporation was granted to the hospital through the exertions of Mr. William Tooke, M.P., the honorary solicitor to the hospital, thus once and for all surmounting a very serious disadvantage the hospital had experienced on several occasions. In this year, also, the office of surgeon-dentist was created and Sir John Tomes was elected to the post, so that the Middlesex Hospital started the first dental department in London, which formed the chief place for study in this branch of medicine until the dental hospitals were founded.

In 1848 the accommodation in the hospital was increased by 55 beds, fireproof staircases were substituted for those already in the building, and a laundry was built underneath Bird ward.

In 1855 the Middlesex Club was founded by Dr. Tom Taylor to assist old Middlesex men, 50 members joining. The members have met every year since, and at its jubilee dinner the chair was taken by one of the founders, Mr. Thomas Nunn, who died three years ago, mourned by every Middlesex man who had had the privilege of his acquaintance. The club is the oldest of its kind in London, and its great success is due to the untiring efforts of Mr. Andrew Clark, honorary surgeon to the King, who has been treasurer for the last 29 years.

In 1856 the office of dean was created, the first occupant of the post being Dr. Temple Frere.

During the few years prior to 1869 the nursing department had come under the notice of the board, with the result that it was improved and reorganised, and part of the improvements consisted in the building of a nurses' home in Cleveland-street, which was opened by Her Royal Highness Princess Mary of Teck. At this time Miss Thorold was appointed lady superintendent of nurses, and for the next 36 years she devoted her life to the benefit of the patients and to the advancement of the nursing profession. The nursing home was extended in 1878 and again in 1904, when the block of buildings adjoining the residential college was opened.

In 1875 an additional storey was added to the Medical School, which up to then had remained in the same state as when it was first erected. Five years later a new lecture theatre was built and the dissecting room enlarged. In 1884 extensive alterations were made in the out-patient department, the opening ceremony being performed by Her Royal Highness the Princess Christian of Schleswig-Holstein.

In 1887 the school buildings underwent a remarkable extension, the present block, together with a residential college, being erected on the east side of the garden. In 1890, owing to the generosity of Miss Leicester, our chapel was built, and thus was fulfilled an object very dear to the heart of the late Mr. George Lawson, who in 1882 had initiated the idea with a promise to build the chapel could a site be found. Owing, however, to the expense of rebuilding elsewhere the laboratories, situated upon the only site available, the matter had hung fire till Miss Leicester's offer enabled Mr. Lawson and others to devote the money they had promised for the chapel to the laboratories. The internal decorations were mostly defrayed by the Ross Memorial Fund; by the late Kenneth Lawson, a former house physician, son of Mr. George Lawson, who left the munificent sum of £500 for that purpose, and by Mr. Bland-Sutton. The Princess May Wards for Children, which we owe to the loyalty of an old student, were opened in

1892 by Her Royal Highness the Duchess of York, now our most gracious Queen.

A convalescent home was first contemplated by the weekly board in 1877, but, owing to lack of funds, the matter had been allowed to drag on without any active steps being taken. In 1891, however, an offer of £500 from Mr. Frank Debenham, a member of the weekly board, towards the erection of the home, stimulated the authorities to greater exertions, and in 1893 the site at Clacton was purchased. Before the completion of the building in 1896 a munificent legacy by Mr. Harry Spicer allayed all anxiety as to how the expenses of upkeep were to be met. The value of this home to the patients and hospital cannot be over-estimated, for not only has it greatly assisted in restoring to health large numbers of men, women, and children, many of whom had never before experienced the benefit of sea air, but also by receiving patients at an earlier date than that on which they can be sent home, it has increased the number of beds available for serious cases in the hospital, and thereby is of the greatest assistance to the poor in our immediate neighbourhood.

In 1895 the operating theatre was rebuilt and the opportunity was taken to augment this department by erecting an additional theatre, sterilising room, anæsthetic room, and rooms for the surgeons and nurses.

In January, 1900, the female cancer patients were removed to the new wing in Nassau-street, a building with accommodation for 36 patients, nurses, and research laboratories. The ground had been acquired from Mr. C. H. Berners, a descendant of the lessor of the original site to the hospital, and the money for the building had been collected during the previous six years, his late Majesty, King Edward VII., when Prince of Wales, having with his usual generosity presided at a dinner in 1894 at which was collected over £9000, £1000 of this sum being contributed by Mr. Samuel Whitbread, M.P., great grandson of the founder of the charity.

In 1901 the laundry was removed to Hendon and the kitchen to the top of the hospital, an improvement which gave much satisfaction to the medical staff since the kitchen was situated under the board room and to the patients in Bird ward since the laundry was underneath them: for the odours connected with washing and cooking, though appropriate enough in their own surroundings, seemed to be out of place in a sick ward and in a room where grave debates were of daily occurrence. At the same time the opportunity was taken of extending the East Wing towards the north, so that Helena and Seymour Wards were enlarged, and the Gynæcological department was remodelled and provided with an operating theatre.

In 1904 Mr. Edmund Dresden left us £32,000, the income to be employed in assisting poor and needy in-patients on their discharge from the hospital.

The year 1905 was a very anxious one for our medical school, the hospital authorities having been forced to withdraw from it all financial aid owing to the action of King Edward's Fund, which intimated that it would not make grants to a hospital which used any part of its general funds towards its school expenses; and it looked at one time as if our school would be ruined, but chiefly owing to the strenuous advocacy of Sir Henry Morris, who also gave £1000 to form the nucleus of an endowment fund, it was saved.

In 1908 part of the fourth storey of the east wing was remodelled, and in the place of two small wards and some bedrooms a maternity department was built consisting of two wards, the usual offices, a theatre, and a baby-washing room. The cost of this attractive addition to the hospital was borne by the Annie Zunz trustees, and for the suggestion of again admitting maternity patients we are indebted to Sir James Kingston Fowler, who forcibly impressed upon the board the great advantage to our hospital and school in so doing. Since these wards have been opened a number of our own nurses have been trained for the State examination of the Central Midwives Board and not a single one has failed.

The next year the trustees of the Barnato bequest, a memorial to the late Mr. Barney Barnato and Mr. Woolf Joel, elected to establish the Barnato-Joel Charity in connexion with our cancer department. For this purpose a magnificent building, containing every modern convenience for the well-being and comfort of the patients, is being erected adjacent to our own cancer wing for the reception of 43 in-patients. The building includes an out-patient department, a nurses' home, spacious laboratories for the investigation of cancer, and an electrical and radium institute. Under the authority given to them the trustees have delegated the actual management of their charity to the weekly board. This splendid addition to the cancer department is the most memorable event in its history since its foundation. It must be remembered that the funds of the Barnato-Joel Charity and our own cancer charity are kept quite separate from those of the hospital and have nothing to do with it.

Thirty-three years ago one might have seen a pale, thin, and serious-looking lad with ambition stamped on every feature spending most of the day perambulating between St. Mary's Hospital and our own. His coat was tightly buttoned, one hand clasped over his breast pocket, and he seemed to be undecided, but at last his mind was made up, and on arriving once more at the Middlesex Hospital he entered its portals and asked to see the Dean. After a searching cross-examination as to the advantages to be gained by joining the school, and as to the lowest terms upon which it was possible to join it, approval was signified, the lad became a "Middlesex man," and paid on the spot for the privilege in coin of the realm which he carefully counted out of a bag to the amount of £90. In October, 1909, one might have seen enter the secretary's office a man whose appearance was mellowed by time. He had drunk deep in the waters of success; ambition was satisfied. Drawing from his pocket £1000 in cash he now asked the assistant secretary to count it. This was the erstwhile lad's thankoffering for being a "Middlesex man," and thus to John Bland-Sutton we owe our recreation-ground, the want of which had been felt for so many years and the absence of which had deterred so many students from joining the hospital.

In 1910 an application was made to the weekly board by one of our students to provide an asylum for some refugees from the Zoological Gardens. The board, with the precedent of the Medical Society before it, agreed to allocate the hospital garden to six squirrels, "provided Mr. Poynder would be at the expense of the nuts." The squirrels, which are quite tame and afford great amusement to the patients, have been accompanied the last few days by others several sizes smaller than themselves.

The latest change I have to notice is that known as the "linked-ward system." The weekly board in its praiseworthy endeavour to decrease the hospital expenditure has been satisfied that by having the male and female wards of each officer adjacent instead of on opposite sides of the building, the cost of upkeep will be materially decreased. It therefore directed the medical staff to make this change. Remembering the part the obstetric department has played in the history of our hospital it is interesting to note that this change could not have been affected without the consent of the obstetric surgeon or his resignation, since this scheme is both destructive and constructive, for to give the physicians and surgeons linked-wards, the only perfect link in the hospital, the obstetric and gynæcological department has been rent in twain and destroyed for ever, and I trust at the quincentenary introductory address of our medical school the future lecturer will remember that this great change was brought about by the self-abnegation of the obstetric officers.

This, then, is a brief outline of what has happened to our hospital since its foundation, and now a few words about some of the men who have enabled all this to be accomplished.

THE LATE PRINCE FRANCIS OF TECK.

The most important member of our hospital is the chairman of the weekly board, and just before I joined Major Ross, the best chairman the hospital had ever possessed and who had occupied that position for 21 years, died. Since then the fortunes of the hospital have been ably guided by Lord Sandhurst and Lord Cheylesmore among others, and in the late Prince Francis of Teck the hospital had in many ways the greatest chairman of them all. His attributes were such that, had he been born in any other walk of life, he must have risen to great distinction and a very high position. His late Serene Highness was versatile to a degree, a soldier who had served his country faithfully and well in India, Egypt, and South Africa, a keen sportsman, a first-rate man of business, possessed of great common sense, and of a large-hearted sympathy with those in distress. He

gave of his best for the welfare of this hospital, an object which I know was dearer to his heart than any other. Those of us who had the privilege of his acquaintance were always struck by his cheerfulness, great courtesy, his mastery of all the details of hospital management, his personal interest in every department, the accuracy of his judgment, and the soundness of his advice, which was always at the disposal of any who liked to ask for it. To Prince Francis we owe the provision of the maternity department, the conception of the scheme for linking the Barnato-Joel Memorial with our cancer charity, and the liquidation of the debt of £20,000 which was due to our bankers when he became chairman. In connexion with his grasp of detail and business capacity Mr. Joel told us at the laying of the foundation-stone of the Barnato-Joel memorial that the trustees had had many schemes put before them for their consideration, but that the proposition of Prince Francis was so business-like they had no hesitation then and there in acceding to his wishes.

The late Prince, if he undertook to do anything, did it with all his might; half measures were foreign to his nature; playing with charity was his abhorrence. It therefore came about that when he offered to clear off the hospital debt he set to work in such a determined way that in three months he had accomplished this great and self-imposed task. What it meant to him and how hard he worked few will ever know. He spent days and weeks at this hospital, signing, writing, dictating letters, and interviewing people in all grades of society, from the old flower-woman who gave him 5s. to the noble lord who gave him £500, and not only did he work whilst at the hospital, but also when away from it, at his home, when visiting, anywhere in fact, and he told me that he was never satisfied unless he wrote 30 letters each week-end. For those working at the hospital his presence was a source of never-ending stimulation and encouragement; it was impossible not to try to do one's best with such a man at the helm. Everyone knew they had only to perform their duties efficiently to have his support through thick and thin.

Perhaps the Prince's greatest attribute was his sympathy with the poorer classes. If he could in any way alleviate their lot he did so, and I often think that this was the reason why he took up hospital work. He knew what illness means so often in the homes of the poor—absence of suitable and perhaps sufficient food, of proper medical attendance, of good nursing, of comfort, and of all that goes to lessen a little the awful misery of illness. He knew that in a well-managed hospital the poor are on the same plane as the rich, everything that science and knowledge can bring to their aid being at their disposal, together with efficient nursing and good food. He realised that to increase the scope and efficiency of the hospitals was to lessen the misery and to lighten the sorrows of the poor, and had he lived he would undoubtedly have become our greatest authority on hospital management and work. Genial, popular, and kind, his late Serene Highness will ever be remembered by us all with esteem and gratitude as "the poor man's friend."

The first President was the second Duke of Portland, who after a short term of office retired owing to the trouble in the obstetrical department. He was succeeded by Hugh, Earl (afterwards Duke) of Northumberland, and since then this office has been filled by the duke's descendants to the great good of the hospital, which is indebted to them for much generosity and willing assistance.

THE MEDICAL STAFF.

Of the medical staff time does not permit me to say much. The Middlesex Hospital during the 166 years of its existence has been fortunate in counting among its physicians and surgeons some of the most noted men of their day. Among the physicians were Charles Morton, who became principal librarian of the British Museum; Henry Hinckley, for 17 years treasurer of the Royal College of Physicians; Richard Warren, physician to George III.; Hugh Smith, who was also a City alderman and wrote a treatise appropriately enough on "blood letting"; Sir Lucas Pepys, the first Middlesex physician to attain the dignity of President of the Royal College of Physicians and the honour of a baronetcy; Sir Francis Milman, President of the Royal College of Physicians; John Latham, President of the Royal College of Physicians and physician to George IV., who in 1791 published a pamphlet entitled "A Plan of a Charitable Institution to be Established on the Sea Coast," thus anticipating the convalescent home at Clacton; Sir Henry Halford, physician to four Sovereigns, and for 24 years President of the Royal College of Physicians; Sir Thomas Watson, born in 1792. His published lectures, the result of 17 years' work at our hospital, are unique in their lucidity, accuracy, and originality, and have been compared to the works of Sydenham; whilst so scholarly was his style that he was known, according to a presidential address in the Transactions of the Royal Medical and Chirurgical Society, as the Cicero of English medical literature. He was five years President of the Royal College of Physicians, and died at the age of 91. His son, Sir Arthur Watson, was vice-chairman of the weekly board for some years. Henry Southey, brother of the Poet Laureate; Francis Hawkins, physician to the household of William IV. and Queen Victoria and 29 years registrar of the Royal College of Physicians; Sir John Burdon Sanderson, later Regius professor of medicine at Oxford; William Cayley, a physician beloved by all and who served the hospital with unswerving devotion for 35 years; and Sir Richard Douglas-Powell, physician to three Sovereigns and for five years President of the Royal College of Physicians, both the latter, though retired from the staff, are happily still with us.

Of the surgeons in the early years of the hospital's existence but few particulars are available. Later, and most noted of our surgeons, was Sir Charles Bell, for ten years a colleague of Sir Thomas Watson, so that for a decade there worked together as physician and surgeon at this hospital two of the brightest ornaments we have ever had. He was elected to the staff in 1814 and was the founder of our medical school. In a brilliant character sketch Stephen Paget describes him as having "all the gifts of the gods; he was versatile, emotional, practical, urbane, a lover of music, touched by every sight and every sound in the streets, now exalted, now depressed, and enraptured alike by solitude and by a crowd." In a letter to his brother concerning his election to the staff Bell writes: "They say I have had the wit to win over Whitbread or to bribe him, that I have bribed all the medical men of the hospital, that I am an anatomist, that I have a large class, and therefore the hospital has taken me up. The medical men of the hospital say they have lived as a family and expect me to be a loving brother of the community;" and in a later letter describing his success by a majority of 265 votes he remarks that the senior physician, Dr. Gower, was so pleased with the result that he was discovered, thinking himself unobserved, "dancing a reel in the board room." Bell, one of the greatest surgeons and physiologists England ever had, resigned after 24 years' devoted service to become professor of surgery at the University of Edinburgh. He was succeeded by his brother-in-law, Alexander Shaw. Following these we have had:—Moncrieff Arnot, twice President of the Royal College of Surgeons, a very plain-spoken but kind-hearted man, who on one day visiting his wards was stopped by a patient with a fractured leg, saying, "Oh, Mr. Arnott, I have such a sinking in the stomach." "Now, my man," said Arnott, quickly discounting the alleged symptom, "why don't you say you want another pint of beer?" Campbell de Morgan, a pioneer in antiseptics and a great advocate for the thorough removal of cancer. Sir William Flower, Director of the Natural History Museum. John Whittaker Hulke, F.R.S., who died in the second year of his Presidency of the Royal College of Surgeons from pneumonia acquired through coming to the hospital on a snowy winter's night to perform an urgent operation which a sense of duty forbade him give to his junior. George Lawson, oculist to Queen Victoria, who worked 22 years at this hospital attending to the surgical ailments of the patients and relieving their physical necessities; his life was one long record of unostentatious benevolence. Charles Leopold Hudson, one of the most brilliant students the hospital ever had, and at the time of his deplorable death assistant surgeon. He started the Students' *Journal*, and was responsible for the amalgamation of the sporting clubs, which has met with the great success he always prophesied. And Sir Henry Morris, now retired from active work on the staff, thrice President of the Royal College of Surgeons of England, and who, quite apart from all else he has done for the profession and humanity, will be remembered always as the first surgeon to perform the operation of nephrotomy.

Of resident medical officers there have been many. They were at first called apothecaries, and our hospital has a lot

to thank them for. The most noted of them was Edward Ashby Fardon, who spent the whole of his medical career in this hospital, and was for 28 years its resident medical officer, during which time he was intimately associated with all the reforms and improvements then carried out, many of which he initiated. The welfare of our hospital was his first object in life, and he died in its service.

THE POST OF SECRETARY.

Of the secretaries to the hospital history relates but little. Some of them left because they were married, some were discharged because they were not, some resigned because they were clergymen, others had to resign because they were not clergymen, for at one time the offices of chaplain and secretary-superintendent were combined; some retired from ill-health, some were expelled for plotting against the authorities, one was dismissed for late habits and a propensity for erasing his name from the night-book, another was arrested on the hospital premises, a third when dealing with the hospital accounts had such very elementary ideas of *meum* and *tuum* that he left to improve his education, and a fourth opined that "his habits were not such as the governors would deem suitable in the situation of secretary." Whether in the main they were happy or unhappy we know not, but at any rate there was one discontented with his lot, for on being asked what he would sooner be if his wish could be gratified replied "a golden carp swimming about in a lake of the finest champagne with the beautiful fluid running in at my mouth and out of my gills every second of my life." Of former secretary-superintendents, Alexander Shedder did by far the most for the hospital, working here for 24 years.

Up to now, in dealing with the people who have helped to make this hospital, I have for obvious reasons mostly mentioned those who are dead or who have retired, but it is impossible thus to pass over the present secretary-superintendent. He entered the hospital on Jan. 1st, 1878, as a clerk, and for the last 33 years one might truly say that every day of his life he has been working in some way or other for its welfare. There has been no eight hours' day for him. As a house surgeon 20 years ago I have often, when going to the wards for some urgent case at 12 or 1 o'clock in the morning, seen the office lights burning and the secretary in his shirt sleeves surrounded by huge ledgers. This year, called to the hospital at 1 A.M. on a similar errand, I have seen the office lights still burning and the secretary still working in his endeavour to collect funds for the hospital, and I was informed that this had been a nightly occurrence for months.

The functions of a secretary-superintendent are manifold, the two principal being, perhaps, the collection of funds and the limiting of expenses. During the present secretary's term of office close upon one million pounds sterling have been spent on relieving the patients, keeping the hospital fabric in repair, and extending its buildings. That takes some collecting! And in the report of the King Edward's Fund for 1909 the average cost per bed at the Middlesex Hospital was the lowest of any of the great hospitals, whilst in the report for 1910 results almost as good have been obtained, and our average cost per bed is stated to be over £7 less than in a hospital more than twice our size which has all the advantages in buying an increased number of beds necessarily gives; this takes some managing! No one deserves more of Middlesex—nay, of the community—than F. Clare Melhado, whose monument is already erected in the large number of buildings that surround this garden.

INADEQUACY OF THE OUT-PATIENT DEPARTMENT.

Every year at our annual dinner the Broderip scholar, the most learned of our students, when returning thanks on their behalf, will ventilate a list of grievances. This custom has always appeared to me to have much to recommend it. Private representations are notoriously often of very little use, since the request is either met with a direct negative or is received with the honeyed phrases of apparent sympathy only to be forthwith relegated to the dust and limbo of the forgotten. On the other hand, publicity will often work wonders, and I have known many a useful suggestion thrown out by a Broderip scholar bear fruit, not perhaps at once, but after the authorities have allowed the matter to undergo unconscious cerebration. It has occurred to me that this custom of the Broderip scholars might very well be followed by the lecturer of the day who is not likely to often have such a chance again of ventilating any grievance he may have personally or on behalf of his colleagues. There will be some members of this audience saying to themselves, "I wonder what grievances the medical staff of the Middlesex Hospital can possibly have." Well, ladies and gentlemen, I must not let you into all the secrets, but, at any rate, we have one grievance, and that a most pressing one, which is the entirely inadequate accommodation available in the out-patient department. This hospital may now be said to be practically complete and up to date except for this. The time has come when we must have a new out-patient department, both for the sake of our patients and for that of our colleagues who have to spend so many hours there every day. Go round to the surgery, the consulting-rooms, corridors, and waiting-rooms this afternoon and see for yourselves; the sister-in-charge will gladly show you. Then imagine that, on an average, at least 500 patients, and on Tuesdays very often 700, are examined and treated every day, that all the serious accidents are first brought there, that all patients for admission have to be seen there first, and that the dispensing for the whole hospital is done there. You will deem it impossible in such a small and cramped space; in fact, there is hardly room to breathe, and it would be impossible if it was not for the loyalty of the staff working under such surroundings and for the fact that the patients are so attracted by the popularity of the hospital that they are prepared to put up with an amount of inconvenience which, under other circumstances, they would not tolerate for a moment. As the sister-in-charge said to me recently, "It's bad enough any day, but on Tuesdays it's something awful." The room set aside for dental work is somewhat larger than a rabbit hutch, and in a short time, in spite of every means taken to ventilate it, the air becomes so vitiated that the dental surgeon tells me he invariably feels ill for the rest of the day after he has finished his work there, and every now and again he loses the services of the nurse on duty from fainting. Working in the out-patient department is not a healthy occupation anyhow; many a man has ruined his health, many a man has lost his life working there. I wonder how many of you have any idea as to what a man has to do before he becomes a physician or surgeon to out-patients. Let me lift the veil a little, you shall perceive a mode of life that is not riotously healthy.

You will see a young man working, always working at the hospital most of the day, and at home or in lodgings up to late at night, with but scant holidays for at least five years, in order to take a high place in his qualifying examination. You will then see him filling the various resident posts that a hospital has to offer, unsalaried posts. Later on you will see him working for one of the higher diplomas, without which he is not eligible for a position on the staff. During this time he has to pay for his board and lodging. Having passed this most difficult examination, you will see him, perhaps, as registrar, a position which necessitates his presence at the hospital six days of the week, which entails a great amount of work, and which is in every way a very exacting occupation. The salary for this varies; at our hospital it is £40 and a free lunch. Roughly, therefore, after about eight years of very hard work, our prospective candidate commences to earn £40 a year. His work is of such a nature that it is impossible for him to earn a living at private practice; he therefore has to look about for some other means of subsistence, such as that of "coaching" students for their examinations, and what work that entails none but a "coach" will ever know. I had 12 years of it, and it is certainly the hardest job that I can imagine, working day after day often up to the early hours of the morning endeavouring to get a small number of men to assimilate a large amount of knowledge, realising all the while full well that whether you obtain any more students depends entirely upon how the present ones prosper in their examination. The time at last arrives when there is a vacancy on the staff; there are sure to be a large number of candidates; only one is chosen, and perhaps it is not the registrar, but we will say it is. His expenses suddenly rise to an alarming degree, he has to take rooms or a house in some particular neighbourhood with the knowledge that, unless he differs in a marked degree from those who have gone before him, he will have to work hard, day in day out, probably without proper holidays, for at least seven years more before his receipts will be equal to his expenditure—that is to say, if he has passed his examinations and obtained the various posts at the first time

of asking, in about 18 or 19 years after he is qualified our friend may be earning enough to pay his house-rent and expenses. Is there any other walk of life in which *such* work is remunerated so inadequately as this? I think not. And then you must remember that with all this hard work there is the anxiety to some of the uncertainty as to whether the next butcher's bill can be paid or not. What with working in the out-patient department day after day for many years, teaching and lecturing to the students, writing papers for learned societies, perhaps undertaking research work, and many other duties associated with his position, no wonder the health at times gives way under the strain. Those who have to work year after year in our out-patient department incur over and above the ordinary risk to their health a definite risk due entirely to the size and nature of the building. This is no fancy, it is a solemn fact. Our present department did very well for the time it was built in 1886, when the yearly number of patients was comparatively small. To-day it is absolutely inadequate with yearly attendances of 141,529. A new out-patient department would mean greater comfort and privacy to the patients and less waiting, and time to many of them is money indeed. The work could be more efficiently carried out, the students would have better opportunities for learning, and it would be incalculably better for the health of everyone concerned.

If I were delivering this address in New York or Chicago I should have in all probability to-morrow morning an offer from some public-spirited millionaire to build the Middlesex Hospital a new out-patient department. Cannot I persuade someone in England to do this for us? I cannot imagine a finer memorial to anyone—a memorial that would not only benefit the patients, but also would be of inestimable advantage to those who spend so much of their lives in relieving the out-patient sick and lame.

CONSUMPTION AND ORDER OF BIRTH.*

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WHEN holding a resident post at the Crossley Sanatorium in 1906, the present writer observed in the patients' case sheets, which showed ordinal position in the family, a large number of entries of eldest-born children; and from this observation conceived the idea that clinical pulmonary tuberculosis might affect such persons more than others. Wishing for expert mathematical opinion on the point, he forwarded the material, mentioning[1] the observation made, to Professor Karl Pearson. The conclusion[2] this distinguished mathematician reached was that both first- and second-born offspring appear subject to consumption at a very much higher rate than younger members of a family.

What follows is an independent examination of fresh evidence bearing upon this matter, and falling under three heads—material, literature of the subject, and conclusions.

A. MATERIAL.

Sources of information suitable to the purpose are, however, very scarce. The shortcomings of medical literature as regards the study of possible pathological inheritance have been much commented upon lately. Author after author records cases of consumption occurring in one or more generations, but until recently no one appreciated the advantage to be gained by giving every available particular. On the side of genealogy and heraldry there is indeed a huge literature, but of the many works to be found at the British Museum, seemingly but one (G. E. Cokayne's "Complete Peerage") mentions causes of death, and even this authority disqualifies itself for the present purpose by not stating absolute order of birth. We learn that such and such an individual was "eldest son" or "third daughter," but not which *child*. Besides, still-births are not mentioned, let alone miscarriages. In fact, all the existent material seems to be medical, and to consist of two works by Brehmer, three by Riffel, and some pedigrees collected by the present writer, a few of which last are either in the hands of workers in the Galton Eugenics Laboratory or have already been published in their "Treasury of Human Inheritance."

* This refers to first-, second-, third-born, &c., of one *mother*

I. *Brehmer's Cases.*[3]

In two† books Brehmer gives 500 odd cases of consumption, and in 494 out of the 500 states exactly both the size of family and the patient's position therein. The particulars given are, however, not enough to construct pedigrees from. The cases are grouped into eight rather recondite classifications of this author's devising, but although each set of cases is selected, yet in sum the selection becomes largely neutralised. The present purpose is affected, however—because a population made up of large families will obviously show fewer elder-born than will a population made up of small ones—in two of the classifications which relate to specially large families. These two will be also separately considered. And now to the result of analysis, premising that it is satisfactory to note that Brehmer (who omitted to count up his results) did not affirm elder-born incidence of consumption: his general impression was that in certain instances scrofula affected the earlier offspring, and that in large families the later-born were likely to be consumptive, especially the sixth. It has been said that we are given the size of the family and the patient's order of birth; from these data the following simple calculation‡ may be made (Table I.):—

TABLE I.

Order of birth.	Subjects.	Phthisical patients.	
		Expected.	Actual.
1st	494	73·1	90
2nd	478	70·8	80
3rd	453	67·1	67
4th	412	61·0	57
5th	355	52·5	37
6th	298	44·1	49
7th	238	35·2	32
8th	187	27·6	23
9th	140	20·7	17
10th	102	15·1	9
11th	68	10·0	15
12th	50	7·4	7
13th	28	4·1	1
14th	14	2·0	1
15th	8	1·1	3
16th	4	0·5	0
17th	2	0·2	0
18th	2	0·2	0
19th	2	0·2	1

Total number of actual patients, 494.

It will be seen that instead of an even distribution of consumptives throughout these families, which was to be expected—Pearson, with his notable statistical acumen specially trained to this sort of problem, could conceive of no lurking fallacy here—instead, then, of an even distribution, there is distinct excess amongst first- and second-born. And the data from which this result emerges include, as stated, two sets of especially large families, which will naturally show relatively fewer elder-born consumptives, and as a fact show hardly any, as seen in Table II.

Brehmer's case-histories thus reveal, unknown to their author, an especial incidence of consumption on first, and to a less degree on second, born children. There is also excess of consumption amongst the sixth-born.

II. *Riffel's Records.*[4]

These—records of several generations of the populations of South German villages—are vastly larger and fuller than the preceding, affording thus scope for much more detailed analysis. But first of all note must be taken of some severe

† More than nine-tenths of the material is in one of them.

‡ Probably no material exists, as yet, which is at once large and exact enough to warrant the highly desirable detailed inferences obtainable by mathematicians, and the many sub-relationships to be searched for by the medical observer. But it requires no high mathematics to determine special incidence relating to order of birth, nor did Pearson employ any when examining this point in "A First Study of the Statistics of Pulmonary Tuberculosis."

TABLE II.

Order of birth.	Subjects.	Phthisical patients.	
		Expected.	Actual.
1st	146	15·7	2
2nd	146	15·7	3
3rd	145	15·6	5
4th	143	15·3	0
5th	142	15·2	3
6th	139	14·9	40
7th	122	13·1	25
8th	107	11·5	22
9th	86	9·2	13
10th	65	6·9	8
11th	44	4·7	12
12th	33	3·5	7
13th	19	2·0	1
14th	9	0·9	1
15th	5	0·5	3
16th	2	0·2	0
17th	1	0·1	0
18th	1	0·1	0
19th	1	0·1	1

Total number of actual patients, 146.

criticisms passed upon Riffel by Cornet in the latter's well-known work.[5] What Cornet censured, however, was none of the publications treated of here, but a smaller, earlier one.[6] In this he described many inaccuracies, but neglected to give chapter and verse for them. Riffel replied[7] that, excluding some obvious printer's errors, what Cornet took for discrepancies merely arose from the fact that the same Christian name often occurred repeatedly in a family. The arrangement of this early work is not such as to make it easy to decide which is right; but its later, amplified form ("Weitere Pathogenetische Studien"), and the other two works mentioned, admit of several tests being applied.

Tests of validity of Riffel's records.—One turns first, of course, to the distribution of the whole population according to family order of birth. It comes out as in the following table (III.):—

TABLE III.

Erblichkeit und Infektiosität.	Weitere Pathogenetische Studien.	Schwindsucht und Krebs.	Order of birth.
Per cent.	Per cent.	Per cent.	
795 (20·1)	529 (16·3)	553 (16·3)	1st
727 (18·1)	478 (14·7)	530 (15·7)	2nd
627 (15·9)	477 (14·7)	481 (14·2)	3rd
514 (13·0)	436 (13·4)	421 (12·4)	4th
396 (10·0)	370 (11·4)	358 (10·6)	5th
290 (7·5)	290 (8·9)	304 (9·0)	6th
214 (5·4)	234 (7·2)	240 (7·1)	7th
143 (3·6)	154 (4·7)	179 (5·3)	8th
91 (2·3)	105 (3·2)	127 (3·7)	9th
61 (1·5)	69 (2·1)	81 (2·4)	10th
32 (0·8)	43 (1·3)	46 (1·3)	11th
21 (0·5)	21 (0·6)	27 (0·8)	12th
10 (0·2)	14 (0·4)	12 (0·3)	13th
4 (0·1)	7 (0·2)	6 (0·1)	14th
2 (0·05)	3 (0·09)	5 (0·1)	15th
2 (0·05)	1 (0·03)	2 (0·05)	16th
1 (0·02)	1 (0·03)	1 (0·02)	17th
1 (0·02)	1 (0·03)	0 —	18th
0 —	1 (0·03)	0 —	19th
Average size of family 4·8	6·2 (fertile marriages only)	5·4	

In the above it will be seen that the gradations in the successive numbers are fairly uniform, and that in the two latter records there is close general correspondence with the following figures for New South Wales industrial families collected by Powys[8] (Table IV.):—

TABLE IV.

Order of birth.	Per cent.	Order of birth.	Per cent.
1st	7670 (16·5)	9th	1927 (4·1)
2nd	7003 (15·1)	10th	1405 (3·0)
3rd	6184 (13·3)	11th	908 (1·9)
4th	5442 (11·7)	12th	546 (1·1)
5th	4708 (10·1)	13th	311 (0·6)
6th	3986 (8·6)	14th	167 (0·3)
7th	3266 (7·0)	Over 14	209 (0·4)
8th	2593 (5·5)		

Average size of family (fertile marriages only) 6·05.

Here, again, we get in families of similar average size and social status about 16 per cent. of the population eldest-born children.

Secondly, one may examine the number of twin births given in these records, for twinning is known to occur about once in 80 births. In round numbers, twins come in these three investigations respectively once in 111, once in 100, and once in 83 births. The records are certainly not perfect—perfect ones of such dimensions it would be nigh impossible to get, so that this is a fairly satisfactory result. Then the deaths from trauma are far more frequent, as one would expect, among men than among women. Pearson, editing a work of Pope's[9] in which were used "E. & I." and "S. & K.," has remarked that phthisis seems exceptionally rife in this material. It must be remembered that the way of life of these communities (described with unflinching Teutonic frankness) was grossly insanitary. The phthisis death-rate cannot be reckoned because, as already stated, the material is not the contemporary populations of these villages, but the contemporary populations *plus* a good many of their forbears; but in proportion to all deaths the deaths from phthisis were not over-frequent. Thus, in "E. & I." they form 6·2 per cent., in "W. P. S." 7·4 per cent., and in "S. & K." 8·7 per cent. of all deaths mentioned. Now in 1893 the general death-rate for England and Wales was 17·6, and the phthisis death-rate 1·3, to 1000 persons living.[10] This would make the deaths from phthisis 7·3 per cent. of all deaths. And, according to Mr. Garland,[11] in the Ancient Order of Foresters, for the quinquennium ending 1901 the deaths from phthisis were among members 15·1 per cent. of the total deaths; among wives and widows of members 13·2 per cent.; while in the Hearts of Oak Society in 1903 and 1904 deaths from phthisis formed over 17 per cent. of all deaths.

As a last numerical test, although this argument may savour of prolepsis, we may take the incidence of the few cases of insanity mentioned; for, as will be described later, insanity has also been claimed to pick out the elder-born for its victims. In "S. & K." and "E. & I." taken together the incidence is shown in Table V.:—

TABLE V.

1st ... 7 in 1348 (0·5%)	5th ... 2 in 754 (0·2%)	9th ... 1 in 218 (0·4%)
2nd ... 2 in 1257 (0·1%)	6th ... 1 in 603 (0·1%)	10th ... 1 in 142 (0·7%)
3rd ... 0 in 1108 —	7th ... 0 in 454 —	11th ... 0 in 78 —
4th ... 0 in 935 —	8th ... 0 in 322 —	12th ... 0 in 48 —

The value of the above calculation is slight, but nevertheless, allowing for the disturbing influence of small totals in the tenth and later born, it shows eldest-born excess of insanity.

What is, perhaps, more important is the general impression these works make upon the reader, and the estimation in which their author is held in his own country. As regards the first point the verdict is favourable. There are rather many mistakes, but such as would arise from careless reading of the proof sheets and from the formidable nature of the task, while many details are given the actuality of which seems evident. During the period of production of these essays the author seems, too, to have risen to a professional position of some distinction in his native district. That his work has found admirers among other physicians Cornet himself attests, and this was the case so recently as at the 1910 Congress of German practitioners specialising in tuberculosis. Riffel's work may, then, allowing for large unavoidable limitations, be taken as valid.

Inter-comparison of Riffel's three publications.—That there must be such limitations will be obvious to anyone who will

picture to himself the task of accounting for most of the persons born during the last hundred years in even a small village; of getting to know respecting each one his or her parents; date of birth; illnesses, marriages, and children; and date, age, and cause of death. In the present instances the task was, on the one hand, helped by close personal local knowledge and by access to official registers; on the other, hindered by emigration of villagers, which (to North and South America especially) seems to have been frequent. It is useful, then, to ascertain in which of the records these difficulties counted for least, and Table VI. (of percentage frequencies in all births) may do something to show this:—

TABLE VI.

	Deaths from—					Cases of—	
	Phthisis.	Pneumonia.	Cancer.	Typhus.	Trauma.	Twins.	Still-births and miscarriages.
S. & K.	5·9	2·1	0·5	0·7	0·8	1·2	4·0
W. P. S.	4·5	1·6	1·1	1·1	0·2	1·0	(not given).
E. & I.	4·3	1·1	0·5	0·8	0·2	0·9	2·0

It will be seen that "E. & I." shows slight general inferiority to the other two; and, as we have already seen, the average size of family in this record is 4·8, which for the industrial class seems low, and is certainly lower than that in "S. & K." "E. & I." is, too, the earliest published of the three by nine years. It seems fair to conclude that it must be given less weight than the others.

Incidence of phthisis in Riffel's records according to order of birth.—It has been mentioned that, owing to the nature of the material, it is impossible to give a death-rate from phthisis reckoned in the ordinary way. What will be done first, therefore, is to state percentage frequencies of deaths from phthisis in all the births, thus (Table VII.):—

TABLE VII.—*Schwindsucht und Krebs.*

Order of birth.	Subjects.	Phthisis. Deaths.	Per cent.
1st	553	41	7·4
2nd	530	32	6·0
3rd	481	27	5·6
4th	421	28	6·6
5th	358	21	5·8
6th	304	20	6·5
7th	240	11	4·5
8th	179	10	5·5
9th	127	5	3·9
10th	81	3	3·7
11th	46	2	4·3
12th	27	2	7·4
13th	12	0	—
14th	6	0	—
15th	5	0	—
16th	2	0	—
17th	1	0	—
Total	3373	202	5·9

It will be seen that only the twelfth-born, where the numbers are very small, have proportionately as many deaths from phthisis as the first-born. In subsequent calculations the table just given can be abbreviated, as in none of the records do cases of phthisis occur later than the twelfth-born. Table VIII. represents similarly percentage frequencies, in all births, of deaths from phthisis in "W. P. S."

Here the first, third, fourth, sixth, and seventh born have more than the general average (4·6 per cent.) of deaths from consumption. The seventh-born has the highest percentage of all, but if this table and the preceding one be taken together, first-born children show a larger proportion of consumption than any of the rest. In "E. & I." we come upon the first (and only) record which clearly does not show this (Table IX.).

TABLE VIII.—*Weitere Pathogenetische Studien.*

Order of birth.	Subjects.	Phthisis. Deaths.	Per cent.
1st	539	28	5·2
2nd	478	19	3·9
3rd	477	23	4·8
4th	436	21	4·8
5th	370	17	4·5
6th	290	14	4·8
7th	234	13	5·5
8th	154	6	3·8
9th	105	3	2·8
10th	69	2	2·8
11th	43	1	2·3
12th	21	1	4·7
Total	3206	148	4·6

TABLE IX.—*Erblichkeit und Infektiosität.*

Order of birth.	Subjects.	Phthisis. Deaths.	Per cent.
1st	795	30	3·7
2nd	727	36	4·9
3rd	627	30	4·7
4th	514	22	4·2
5th	396	20	5·0
6th	293	11	3·6
7th	214	11	5·1
8th	143	3	2·0
9th	91	1	1·0
10th	61	4	6·5
11th	32	0	—
12th	21	2	9·5
Total	3920	170	4·3

But granting that the two more reliable records ("S. & K." and "W. P. S.") show eldest-born incidence of consumption, there remain a good many fallacies to be excluded. The first that will be taken has already been indicated. Even in the best of these records there are many persons whose fate, for one reason or another, is quite uncertain. To deal with this difficulty one may compare the relative incidence of the disease as before—that is, according to position in the family—but amongst those subjects only who are accounted for, that is among all the stated deaths. The result of this examination of the data is in close correspondence with the preceding: "S. & K." shows consumption most rife amongst the eldest-born—11·5 per cent., as against a general average of 8·7 per cent., and a second highest percentage of 9·6 in the fourth-born. "W. P. S." gives general average 7·4 per cent., highest percentage 9·2 in the seventh-born, next highest 8·2 in eldest-born. The two together again show eldest-born the highest of all. "E. & I." again shows the eldest-born below the general percentage.

The second fallacy to be mentioned is not so obvious, but, as will be seen later, it has been imputed by a critic.[12] It is this. Put the case that infantile mortality is especially low in eldest-born children. Then more eldest-born than other children will grow up to adolescence and adult life. The adolescent and adult population will thus come to contain an unduly large proportion of eldest-born; and as consumption is a disease mainly of these ages, consumptives will show an unduly large proportion of eldest-born likewise. To test for this possible fallacy one must limit the material to those who die at adolescent or adult age. The result is, however, entirely negative. "S. & K." gives, in deaths at 18 years§ of age and upwards, in the first-born deaths from phthisis 24·1 per cent., which is the highest except in the case of the twelfth-born, whose numbers are very few. "W. P. S." shows, when examined similarly, the first-born proportion highest of all. In "E. & I." the effect of such analysis is to bring the percentage of deaths from phthisis in the first-born column above the general percentage.

But a further procedure which seems desirable is to see what happens in the case of other adult diseases, to see if these, too, are given more frequently in the first-born; for it

§ Osler gives 15 years as the lower limit of the usual age period of phthisis.

is conceivable that the distinctive position of eldest of a family might cause all details respecting him or her to be better remembered. The chief of the other causes of death here recorded, which affect adults, are pneumonia, typhus, cancer, and trauma. The percentages of deaths from each of these four causes have been worked out in each of the three records ("S. & K.," "W. P. S.," and "E. & I.") in the three ways used and just described in the case of phthisis—that is, on all births, on all deaths, and on deaths at 18 years and upwards. In none of the resulting 36 tables does the highest percentage occur with the eldest-born, although in the case of cancer there is some approach to this condition of things. Such an array of figures would be too much to quote in an article of this length, but the following contrast may be given (Table X), using the two records "S. & K." and "E. & I." together, and reckoning the percentages on the first basis, that of all births:—

TABLE X.

Deaths from—	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
Phthisis	6·3	5·0	5·2	5·7	5·2	5·7	5·0	4·8	3·4	3·3	3·3	6·2
Pneumonia ...	1·8	2·5	2·0	1·5	1·3	2·1	2·1	1·8	0·8	2·6	0	0
Typhus	1·2	0·7	1·2	0·7	0·5	1·3	0·4	0·6	1·7	1·3	1·1	0
Cancer	1·2	0·8	1·1	0·9	0·4	0·5	0·6	0·3	1·2	1·3	0	0
Trauma	0·1	0·7	0·6	0·4	0·6	0·5	0·6	0·9	0·4	0	0	2·0

It would, not, therefore, seem to be the case that the especial liability to consumption of the first-born in these two records can be explained on the ground of fuller details of all kinds being given for them, or their greater vulnerability to disease in general.

Before leaving Riffel's notable work one might say that, like Brehmer, he confined himself to comment upon individual or a few cases. He did no computing; and his sole remark connected with position in the family is to the effect that the eldest child or elder children of hereditarily tainted parents escapes or escape consumption. ("W.P.S.," Text, S. 58.)

III. *Own Pedigrees.*

The last source of material is records of sanatorium patients. They relate to sputum-positive cases only, and in many instances information was obtained from parents or other relatives as well as from the patients themselves. What will be used here are the particulars concerning the patients and their brothers and sisters. The record is thus fuller than that of Brehmer, for a complete history as regards consumption is obtained of each family, using that word in the restricted sense of childship, or a series of children born of one mother. My material is, on the other hand, scanty as compared with Riffel's, for it is confined to phthisical families and to one generation, and takes no count of diseases other than consumption.

And here one may protest against the obscurantist argument that it is not justifiable to put down a person as free from consumption unless that person's lungs have been found tubercle-free on the post-mortem table. Were the subject of discussion pulmonary tuberculosis, in the wide sense, then this objection would be valid; but consumption is only those degrees of pulmonary tubercle which become clinically evident. The person who, dying by violence, is found to have a scar at one pulmonary apex, has in the practical problem of tuberculosis no importance at all. For practical purposes, too, lay statements as to deaths of relatives from consumption may surely be accepted to a large extent. Most persons now have a knowledge of what was on the death certificate of a son or sister or brother. But there is, of course, no need for this allowance as regards the patients themselves, for, as already stated, they were fully verified cases of pulmonary phthisis. Their distribution in order of birth works out as in Table XI.

As in Brehmer's material, there is considerable excess of consumption among first and second born. There is also excess amongst fifth born.

If one adds the cases of consumption amongst the patients' brothers and sisters the results are practically the same (Table XII.).

TABLE XI.

Order of birth.	Subjects.	Phthisical patients.	
		Expected.	Actual.
1st	263	41·5	53
2nd	259	40·9	47
3rd	246	38·9	41
4th	222	35·1	30
5th	190	30·0	38
6th	160	25·3	22
7th	118	18·6	16
8th	88	13·9	8
9th	55	8·6	5
10th	31	4·9	2
11th	20	3·1	1
12th	5	0·7	0
13th	2	0·3	0
14th	1	0·1	0
15th	1	0·1	0
16th	1	0·1	0
17th	1	0·1	0

Total of actual patients, 263.

TABLE XII.

Order of birth.	Subjects.	Phthisical cases.	
		Expected.	Actual.
1st	263	55·8	78
2nd	259	54·9	61
3rd	246	52·2	56
4th	222	47·1	46
5th	190	40·3	42
6th	160	33·9	29
7th	118	25·0	20
8th	88	18·6	11
9th	55	11·6	6
10th	31	6·5	2
11th	20	4·2	1
12th	5	1·0	1
13th	2	0·4	0
14th	1	0·2	0
15th	1	0·2	0
16th	1	0·2	0
17th	1	0·2	0

Total of actual cases, 353.

If, to exclude a possible fallacy before mentioned, the distribution of consumption in order of birth is taken among subjects only of 18 years of age and upwards, there is still considerable eldest-born excess (actual 75, expected 60 5) and some second-born excess.

The main examination of material is now finished, and the result may be stated very shortly. Five sources have been analysed, and of these five, four agree in showing that consumption has preference for first- and second-born children. The next step is consideration of the scanty, but interesting, literature of the subject—the literature of what may be called the *pathological aspect of primogeniture*.

B. LITERATURE.

I find no observation previous to my own of eldest-born incidence of consumption. Brehmer's and Riffel's already noted opinions seem the only investigation the subject had received. As to other characters of the first and earlier born, Sir A. Mitchell,[13] among 443 idiots and imbeciles found 138 first-born, or 31·1 per cent. Excluding a large contingent of illegitimate children, who are, of course, disproportionately often first-born, and confining his observations to cases in which only one idiot, and that a congenital one, occurred in a family, he concludes again that "idiocy is more likely to occur among first and latest pregnancies

than among others," since "of *all* the children born in Edinburgh and Glasgow in 1855, 22·8 per cent. were first pregnancies, while of the 85 idiots 33 per cent. were first pregnancies." The first figure in the second quotation seems high, and indeed Langdon Down[14] claims liability to idiocy among primiparous children because 24 per cent. of the 2000 idiots (illegitimate largely excluded) examined by him were first-born children. But Down gives the average size of family (6·91), and also the percentages of idiots who were second-born, third-born, &c. From these data it may be concluded that 24 per cent. was an excess; for, as we have seen in the tests applied to Riffel's work, even in populations with a smaller average size of family the percentage of first-born children to be expected is but 16 or so. He also found that 40 per cent. of idiots born in a state of suspended animation were primiparous children, and invokes as a cause of both phenomena the "exalted emotional life" of newly married couples and the increased difficulties of a first parturition.

Matthews Duncan[15] found that first-born children in Scotland are shorter and lighter than others, but traces this to the influence of early age of the mother. Elsewhere he gives the following summary: "Among Mitchell's 443 idiots and imbeciles 138 were first-born; among Wilbar's 675 there were 191 first-born; among 100 of Beach's, 20; among 2000 of Down's, 480. Or among 3218, 829, or about 26 per cent., were first-born, and presumptively born of young mothers." Voisin[16] has a remark that among the children of an alcoholic father the first is often an idiot, and the second only imbecile. Winter[17] states that 30 out of 54 Irish and Irish-American criminals were eldest-born; there were 9 second, 11 third, 1 fourth, 2 fifth, and 1 sixth born. He connects this with "the theory that first-born children are liable to the greatest number of accidents during birth." Moll[18] gives the following opinion of a patient, a man of considerable intellectual culture: "X. behauptet, er hatte gefunden, dass gerade bei Erstgeborenen sich homosexuelle Neigungen finden." He himself thinks that it is more often in youngest children, but that this is very little more than coincidence.

Carman,[19] after examining 1507 Michigan school children, says that, in general, sensitiveness to pain decreases in order of birth. Strength of grasp remains the same with boys, while it varies with girls. Wells,[20] studying data furnished by trained observers and by teachers of school children in California, gives curves showing, with minor sex differences, first-born children superior to others in weight, height, association time, discrimination, voluntary motor ability, natural mental ability, neatness, and deportment. Macdonald[21] stated that of 53 university students the first-born were more sensitive to pain than the second-born.

Dugdale is quoted by Havelock Ellis[22] as finding that the first-born child tends to be a criminal. This last author seems the first to have been struck with the multiple abnormal tendency of the eldest child, and also to have added to the number of abnormalities those of great talent and genius—for Galton's study of eminent English scientists speaks of oldest or only *sons*, not eldest children. Here it is stated, too, that brothers and sisters dead in infancy are often excluded (at any rate in reckoning average size of family), and this defect is hardly likely to be absent either from Havelock Ellis's material, which is lives from the "Dictionary of National Biography." However, after guarding against some fallacies, Ellis pronounces for decisive results in favour of "special liability for eldest and youngest children to be born with intellectual aptitudes." Ballantyne[23] collects from medical literature the following 23 cases of congenital diaphragmatic hernia, in which order of birth was stated: 1st, 5; 2nd, 7; 4th, 5th, and 6th, 2 each; 8th and 9th, 1 each; order uncertain, but not first, 3.

We now pass to the work of the biometric school, which in this, as in one or two other points, has recently been curiously confirmative of conclusions previously reached by the much, and only in some respects justly, censured writers on the subject known as degeneracy. It begins with a paper[24] by Beeton and Pearson on the inheritance of the duration of life, studied in pedigree records of Quakers. The authors find that "the elder adult sister and adult brother live on an average four years longer than the younger adult sister or brother." An elder brother or sister was "one who might have been born one year or 20 before the younger brother or sister"—a description from which one is not warranted in deducing that the "elder brother or sister" was also the eldest of his or her family, although from subsequent references by Pearson to this paper this would seem to have been often the case.

Next comes the already mentioned study[2] by Pearson of material concerning consumptives collected by the present writer. Next, Heron's study[25] of Dr. Urquhart's 331 family trees of lunatic asylum patients, in which he found excess of insanity amongst the four eldest, and deficiency in the remainder. Pearson in his Boyle lecture[26] quoted the last two findings—namely, that the elder-born are more liable to pulmonary tuberculosis and insanity—and, on the authority of Dr. Goring, added a third, criminality. In two of the instances, then, as has been now seen, the biometricians might have strengthened their case by quoting previous literature. The statistics relating to criminals show excess amongst the first three born, and in the case of the eldest of all it is very marked—viz., expected number of criminals 58, actual number 120.

The conclusion drawn by Pearson, that the eldest-born is generally inferior, elicited a reply from Von den Velden,[12] who took the tuberculous families in Riffel's "Weitere Pathogenetische Studien" and "Schwindsucht und Krebs," and made out that while in them there were certainly more deaths from consumption amongst the three first-born than in the remainder, yet this was due to smaller infantile mortality. This point I have alluded to before. The slight difference described is not enough to account for the much bigger difference in deaths from phthisis, and, moreover, using a much larger material, I have tested for this fallacy with negative results. Finally, Pearson in a letter to the lay press has described eldest-born incidence as characteristic of albinism.

There remain two more medical observations to be mentioned, that of Davidson,[27] who found 10 out of 19 cases of congenital pyloric stenosis to be eldest children; and that of Hunter,[28] who among idiots and their parents described specially heavy incidence at either end of the family. Popular sayings it is not worth while to go into. One or two authors have described abnormalities as especially frequent in bastards, who are likely to be often first-born, and Galton's well-known conclusion as to the relative sterility of heiresses perhaps similarly calls for mention. Pedagogical literature on only children, like Neter's "Das einzige Kind," deals with characteristics referable to a solitary upbringing, and Friedjung[29] invokes much the same cause for the neuropathic and digestive disturbances he found in these subjects.

This is the chief literature of the subject, and, although scanty, it favours Havelock Ellis's supposition of a tendency to multiform abnormality on the part of the eldest child; perhaps second- and third-born children should be included also.

C.—Further Analysis and Conclusions.

There is proof, it is claimed therefore, that consumption has preference for the eldest-born. What further can we learn as to this predilection?

Unfortunately, such inquiries cannot be pushed very far as yet, owing to the want of material. Thus respecting the exact amount of increased risk of developing phthisis that an eldest child runs, no direct data exist from which to calculate. For these the investigator must await records on the scale of Riffel's, but with the blanks much more often filled in. As matters stand, we may say that *whereas in 1228 consumptives* (494 upper middle-class Germans; 353 middle- and lower-class inhabitants of Lancashire, London, and Northumberland; and 381 mainly lower-class Lancastrians) *one should find 196 eldest children, one actually does find 281—i.e., eldest-born consumptives are in excess, say, 40 per cent.*

Has sex any influence—that is, are these first-born consumptives preponderantly male or female? Taking the proportions of male first-born consumptives and female first-born consumptives to, respectively, all male and all female consumptives, Brehmer's record and my own pedigrees show hardly any difference for sex. Riffel's two last works give a slight male preponderance. According to the present evidence, then, the influence of sex is slight, if any.

As to infection, can the greater liability of primiparous children be explained by greater exposure to infection from a parent or other relative? If so, the eldest-born consumptives should come mostly from phthisical parents. The material suitable here is Pearson's study, where the point

received notice, Brehmer's cases, for he gives "hereditarily tainted" families separately, and my own pedigrees. Taking these three sources together the result comes out (Table XIII):—

TABLE XIII.

Order of birth.	With phthisical parent.			Without phthisical parent.		
	Consumptives.			Consumptives.		
	Expected.	Actual.	Excess.	Expected.	Actual.	Excess.
1st	47·8	74	54%	148·2	207	39%
2nd	46·7	53	13%	143·4	167	16%

Thus the issue of phthisical parents shows the greater eldest-born excess; and although there is the fallacy to be considered that phthisis in a parent will be better remembered by an eldest-born child, yet it seems reasonable to suspect the influence of infection here. But families without phthisical parents also show a distribution of phthisis widely departing from the normal.

Have elder-born consumptives any marked characteristic? Of 141 of my last cases I have full case sheets. The number is far too small to warrant inferences as to peculiarity in the course or extent of the disease, but it may be noted that among these 141 there are one patient with diabetes mellitus, three who suffer from hay fever, and three the subjects of congenital xerodermia. Now, the diabetic case is an eldest child; two of the hay fever patients are likewise, whilst the remaining one is second-born; and two of the ichthyotics are eldest-born. Yet the first- and second-born of these 141 only number 58, and the first-born alone only 28.

This would seem to point to the conclusion that the tendency of the eldest-born to become consumptive is an innate tendency, and the hypothesis is strengthened if we appeal to the literature of the subject. Lunatics and idiots are certainly very liable to consumption, and, as has been seen, it is exceedingly likely that they are disproportionately often eldest-born. Again, if faulty upbringing by inexperienced parents is to be made responsible for consumptive elder children, it must also be made responsible for elder-born criminals, lunatics, idiots and perhaps men of genius, which would render an ordinary human responsibility sufficiently formidable. The existing evidence negatives the view that infection is the sole cause; besides, where does infection come in in the other special classes just named?

Innate tendency to consumption, a soil intrinsically suitable to the tubercle bacillus, phthisical predisposition original and autochthonous, not the result of weakening by other disease, is an idea which has always had support. Bacteriological work may have limited the influence to be properly assigned to it, but an exclusive reliance upon bacteriological arguments has often been proved dangerous; while such theories of the *habitus phthisicus* as stenosis of the upper thoracic aperture, which has considerable vogue in Germany, as the frequency in consumptives of small heart, of a condition of underweight, of supernumerary nipples, and of nasal defect—the evidence as to which last I have given elsewhere—have never been confuted. Eldest-born incidence might unite all these as coördinate degenerative manifestations; and eldest-born incidence, it may be noted, is absolutely proof against the objection, first advanced by Cohnheim, that the *habitus phthisicus* is a result of an already existing tuberculous infection.

Practical applications must as yet be briefly dismissed. There is an obvious bearing upon prophylaxis and upon life and sickness assurance. It may be that the age of nubility has been under-estimated; it may well be that the present limitation of families is a greater evil even than is supposed. But we need to know more of the eldest child's characteristics before speaking positively. The study of the soil, even though it has less therapeutic promise, must not be so overshadowed by the study of the seed. Galton's wise words need marking: "I doubt whether the unaided apprehension of man suffices to distinguish between the frequency of what occurs on an average four times in ten events and one that occurs five times. Much grosser proportions have been wholly overlooked by doctors."

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NOTE ON TWO CASES OF TUMOUR OF THE PREFRONTAL LOBE IN CRIMINALS;

WITH REMARKS ON DISORDERS OF SOCIAL CONDUCT IN CASES OF CEREBRAL TUMOUR.

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IN the discussion of the mental symptoms produced by new growths in the brain comparatively little attention has been directed to the occurrence of disorders of social conduct, and hardly any reference to the subject is to be found in medico-legal literature. On this account it may be of interest to record the two following cases of brain tumour in which such conduct symptoms appear to have been amongst the earliest indications of the impairment of mental function. The first case came under my personal observation; for the notes of the second case I am indebted to the courtesy of Dr. P. R. Mander, medical officer of H.M. Prison, Pentonville, and lately medical officer at H.M. Prison at Stafford.

CASE 1.—A man, aged 40 years, convicted of larceny in September and sentenced to seven days' imprisonment, and convicted of a like offence in December and sentenced to one month's hard labour. Family history: Father drowned accidentally; mother died from a "paralytic stroke"; maternal aunt stated to have died from "brain disease." Nothing else of note. Previous history: Apparently of normal intelligence as a boy; on leaving school was apprenticed to a plumber, but after a short time ran away and worked his passage to Australia; not prospering there, nor in California, where he went subsequently, he returned to England 15 years ago and finished his apprenticeship. He never did much at his trade, and of recent years got his living mainly by casual labouring jobs. Lately he seemed disinclined to make much effort to get or to retain any sort of work. He married 12 years ago and has had three children, all living and healthy, the youngest three years of age. No history of alcoholism or of lead poisoning; he says he had syphilis 18 years ago.

Circumstances of criminal offences.—Up to the time of his first conviction in September the man had borne an excellent character for honesty. In the month of August he went into West Ham Workhouse, and on Sept. 3rd absconded, taking with him a pair of men's boots. He was traced to a lodging-house, and the boots were discovered concealed in a yard at the rear of the premises. To the police who arrested him he offered no explanation of his conduct, but he told his

wife that he had taken the things because he thought "she might want a pair of boots" (the boots were men's). For this theft he was sent to prison for seven days, and served his sentence without any incident occurring to attract attention to his physical or mental condition. On his release he got some money from his relatives and took a room in a lodging-house, making shift to keep himself and his family by casual work and by what his friends could give him. During this time his wife observed nothing unusual in his demeanour; he had always been rather reserved and taciturn, and he showed no change in this respect. He appeared, however, a little more irritable than heretofore. His health seemed good, but he complained occasionally of dizziness. On Dec. 14th he went out early in the afternoon, and passing by an outhouse where some building materials were lying he went in, took a quantity of lead piping, and proceeded to conceal it by wrapping it round his body under his coat. It was broad daylight at the time, and several men were at work close by; they called a policeman, to whom the man said, "I went into the place and saw it there, and thought I was entitled to it." When charged at the station he remarked, "I know I've done wrong."

Prison history.—On reception the man appeared in good health, and was employed in making coal-sacks; he learned the work rather slowly, taking about five days to pick up the necessary skill which is acquired by most intelligent prisoners in some three days, but after this initial difficulty he did his task satisfactorily. In all other respects, also, he adapted himself to the special conditions and routine of prison-life. On Jan. 1st a complaint about his eyesight led to the discovery that he had intense double optic neuritis. No history of headache, vomiting, or fits could be elicited, but the patient said he suffered occasionally from slight vertigo. Speech appeared rather deliberate (but this, according to information given later by his wife, had always been the case); articulation was distinct. The tongue was protruded straight and was not tremulous. The pupils were equal, regular, and normal in reactions. Gait and motor power generally appeared normal; knee-jerks were increased on both sides. Sensation on face and hands, roughly tested, was normal. Stereognostic sense was normal. As regards mental functions, there was an absence of all evidence of intellectual disorder; the patient gave a perfectly clear and coherent account of his antecedents, the accuracy of his statements being confirmed in all particulars by subsequent inquiries; his memory for recent and remote events was quite good; his orientation in time and place was excellent; he did simple calculations correctly. Emotionally he appeared somewhat apathetic; he seemed quite indifferent to the disgrace and discomfort of imprisonment, and when warned as to the grave condition of his health and the immediate risks to his vision he received the information with an incredulous smile. Beyond this indisposition to accept unpleasant ideas, he showed nothing that could be regarded as morbid optimism; his account of his past and his estimate of his capacity and his prospects in life did not reveal any lack of critical sense. A more detailed examination of the nervous system was unfortunately deferred and was never made, for two days later the patient was found dead in bed. He had got up to pass urine about an hour before, and had spoken in his usual manner to the nurse.

Necropsy.—The organs of the thorax and abdomen were healthy and the body was well nourished. In the brain a large tumour was found infiltrating the left frontal lobe and visible superficially as an oval mass lying obliquely from the anterior pole of the hemisphere to a point close to the junction of the prefrontal sulcus with the fissure of Sylvius. The long diameter of the mass measured 69 mm., and the transverse diameter at its broadest part 50 mm. The growth had destroyed the cortex over nearly the whole of the inferior and over a large part of the second frontal convolutions, and extended deeply into the white matter. The dura mater was non-adherent and was normal in appearance. Microscopically, the tumour was found to be a small-celled sarcoma with very slight development of stroma; in its deeper part it had undergone some degree of calcareous degeneration.

CASE 2 (communicated by Dr. R. P. Mander).—A man, aged 57 years; bridle-cutter. Nothing known of family history. First convicted (vagrancy) in September, 1905. Within the next 11 months was in prison five times for the like offence and once for drunkenness. Died in August, 1906, while serving a sentence of one month's imprisonment.

Prison history.—During his first four terms of imprisonment nothing special was observed about the man's health or conduct. He conformed to the prison routine and did his work satisfactorily. On his fifth conviction, in January, 1906, it was noticed that he had deteriorated mentally; he seemed rather inert and apathetic, and was untidy in his dress and person; he did not answer the school tests nearly as well as on his first admission to prison; he wetted his bed frequently. Despite this appearance of dulness, his memory was fairly good and he talked rationally and coherently. He made no complaint of headache, or indeed of anything, and there was an entire absence of the ordinary symptoms of brain tumour. Speech, motor power, and sensation were normal. Pupils were equal and reacted normally. There was no optic neuritis. Knee-jerks were not modified. On account of his mental condition he was sent to the workhouse at the end of his sentence, but did not stay there long, and was soon back in prison, serving a sentence of seven days in May, and being again convicted in July, 1906, his mental and physical condition at this time appearing much the same as noted above. On the morning of August 9th he was found in a semi-conscious condition in his cell. There was some rigidity of the right arm and right side of face. Pupils were equal; temperature normal; pulse strong and regular; knee-jerks brisk. He was able to swallow fluids. He passed urine under him. During the morning he was restless, continually moving his arms and legs, but taking no notice of anyone. Some hours later pupils became unequal, the face flushed, and pulse became bounding. Then twice in quick succession the face and neck became deeply congested and paled again, after which the pulse gradually stopped.

Necropsy.—Except for some pleuritic adhesions on the left side and some slight evidence of atheromatous degeneration in the aorta, the organs of the thorax were healthy. The abdominal organs were also normal. There was no evidence of syphilis or of alcoholism. In the brain a tumour was found infiltrating the anterior part of the right frontal lobe. It was about the size of a small orange and was of fairly firm consistence. The membranes were thickened over the growth and were firmly adherent to it. There was an area of softening along the posterior margin of the tumour.

Remarks.—Cases of cerebral tumour with an absence of obtrusive mental and physical disorders have, of course, been very frequently recorded; and it is quite natural that, as a mere result of chance, some cases of this sort should be met with amongst prisoners. There is some reason, however, to think that the condition is more common in criminals than would be explained solely on this view. As evidence on the point it may be noted that during the last ten years in the local prisons in England and Wales as many as nine deaths were attributed to brain tumour; and it may be added that five of these cases occurred in three prisons where it is the regular practice to ascertain the cause of death by post-mortem examination. In these three prisons during the period named brain tumour accounted for 4 per cent. of the total mortality, which is a rather high proportion when it is borne in mind that cases of this disease with distinct physical or mental impairment would not be likely to be sent to prison, or, if sent, would not be detained. Whatever be the significance of these figures—and they are, of course, far too few to lay any stress on them—it is at all events clear that disorders of social conduct may occur in the early stages of cerebral tumour, and may apparently be due, as in the cases reported in this paper, to the affection of the brain. In the majority of instances, no doubt, the offences committed in these circumstances are of a trivial sort, and it is perhaps for this reason and because of their precocity, rather than because they are really rare, that so little account is made of them in the literature of the subject. They are, however, in many ways very instructive as throwing light on several points of importance in the relation of crime to organisation, and on that account a short consideration of their characteristics may be of interest.

The first point to be noted in this connexion is that conduct symptoms in brain tumour are generally independent of, and appear earlier than, evidences of intellectual disorder. Here, as in other forms of mental enfeeblement, manifestations in the sphere of impulse and feeling precede the involvement of thought. This fact is illustrated in Case 1, and it is clear in most of the clinical histories

in which any reference is made to the emotional tone and the nature of the impulses. As regards the social quality of conduct in the disease the recorded cases are too few to furnish direct evidence, but it may be inferred from the greater prevalence of the moods of indifference and optimism that the most common sort of delinquency will be either acquisitive or parasitic, as in the two observations reported in this paper. Crime in cerebral tumour would thus show a close correspondence with crime in general paralysis,[1] and in this connexion it is interesting to note how exactly the thefts committed by the patient in Case 1 recall, in their method and in the culprit's attitude towards them, the impulsive larcencies of a general paralytic in what Legrand du Saule has aptly termed the medico-legal stage of the disease. In a case of cysticercus of the brain[2] I have observed petty thieving with the same puerile characteristics as an initial evidence of mental disorder in a patient previously honest and intelligent. The resemblance to general paralysis may be noted also in cases of cerebral tumour with aggressive tendencies; in both diseases such tendencies are usually attributed in the clinical histories to emotional instability and loss of inhibitory control. In addition to such cases there are also instances, though very much rarer, where impulses of violence appear to be related to a persistent affective state. A very remarkable case of this sort has been reported in a preliminary note by Dr. R. Cunyngham Brown of H.M. Convict Prison, Parkhurst, who has kindly allowed me to refer to the clinical history. The patient, who was stated by the police to be a heavy drinker, murdered his wife; while awaiting trial, he complained of visual and auditory hallucinations, and developed a persecutory delirium; after a period of remission the persecutory symptoms recurred with increasing mental confusion and apathy, and the patient died some 17 months after the date of the crime. At the post-mortem examination a large tumour was found infiltrating the right temporosphenoidal lobe. So far as I am aware, this is the only case on record of actual homicide in this disease. Cases with suicidal tendencies appear to be much more frequent, and suicidal attempts are mentioned in a large number of clinical histories. Probably in most instances, as Clouston[3] remarks, these attempts are due to intensity of suffering and to despair, and are not, therefore, really the expression of a morbid affective state. Sometimes, however, direct suicidal impulses are observed, mainly, of course, in cases with melancholic depression, and it may then happen that the coexisting enfeeblement of mind gives a special character of fatuousness to the suicidal act, exactly as occurs in general paralysis. A characteristic instance of this kind has been recorded by Siemens,[4] in which the patient, a woman just past the climacteric, with a sarcoma affecting the ascending and first frontal convolutions, developed persecutory ideas and tried to drown herself, but called for help as soon as she got into the water. Actual suicide, however, appears to be a very rare occurrence in cerebral tumour; I have only found one case mentioned in the literature of the disease (a case reported by Rey[5]); and in a series of 1700 post-mortem examinations of suicides recorded by Pilcz[6] new growths were found in the brain in only three cases. Though sexual excitement is often mentioned in the clinical histories, I do not know of any instance in which the symptom led to criminal conduct.

The affective tone and the character of the impulses, like the other complex mental symptoms of cerebral tumour, seem to be quite independent of the site or nature of the growth. As Schuster[7] has shown in his elaborate statistical study of this question, tumours alike in histological character and affecting the same region of the brain may give rise to the most varied manifestations in impulse, feeling, and thought. And the recent figures of Pfeifer[8] support the same view. From this fact we may probably infer that in cases of tumour, as in cerebral enfeeblement from other causes, the character of conduct is determined, not by the brain lesion, but by the state of the organic life, "in which the emotions and the will are rooted" (Maudsley). This is what we find also in the study of crime in alcoholism[9] and in general paralysis, and in all likelihood it holds true as well of the conduct disorders in old age. In alcoholism where there is ordinarily a more or less marked impairment of visceral function, the affective tone which reflects this function is pessimistic, and there is a special tendency to impulses of repulsion, of antagonism to the environment—impulses which find extreme expression in the suicidal and homicidal acts so frequent in the alcoholic. This persistent visceral disorder appears, in fact, to be of somewhat similar nature to the organic changes which, occurring in a healthy individual as the reflex result of unpleasant stimuli, give rise to the depressing emotions, so that in alcoholism the organism is, as it were, constantly attuned to the impulses which belong to these emotions and which are indeed fundamental factors in their constitution. In general paralysis, on the other hand, the organic stimuli which go to form the cœnæsthesis are ordinarily normal, and the affective tone is accordingly optimistic with impulses of attraction, of acquisitiveness. And as the organic condition in cases of cerebral tumour is also ordinarily healthy, the emotional tone and the impulses will for the most part be like the emotional tone and the impulses of the paralytic. And confirmation of this view may frequently be found also in exceptional cases of either disease. Thus in the relatively rare instances of melancholic depression in general paralysis, the emotional state may very often be found to be associated with the presence of some cause likely to interfere with the healthy activity of the organic life, in some cases with senile changes, in others with intoxication by alcohol[10] or by lead.[11] And so, too, in cerebral tumour; taking, for instance, the observations already mentioned, we find that in Rey's case of suicide the patient was 74 years of age, Dr. Cunyngham Brown's homicidal criminal was a heavy drinker, and Siemens' suicidal patient was at the menopause.

The conclusion to which we are led is, then, that the cerebral lesion is related to the disorder of conduct only in so far that by reducing the intellectual life it increases the predominance of the affective life and diminishes control over the organic tendencies, allowing impulse to issue more readily in action. The disease has, therefore, no direct influence on the affective tone or on the character of the impulses; and we could hardly, indeed, imagine it exercising any such influence without admitting a localisation of the feelings for which physiology affords no sort of warrant. The farthest limit to which we can go in this direction has been clearly indicated by Dr. Mott[12] in his recent valuable lectures on the physiology of the emotions. He points out that the only evidence, clinical or experimental, which tends to show a connexion of any special region of the brain with emotion is that which indicates the possibility of the optic thalamus being "the great subconscious centre for the elaboration and coördination of sensory impressions and those brought by the special senses from the material world around." On this view we could conceive that a lesion affecting the thalamus might give rise directly to those diffused peripheral changes which we feel as an emotion, but we cannot in any other way, or with regard to any other part of the brain, imagine a diseased condition of that organ being *per se* the cause of a definite affective state. It is not, therefore, in the condition of the brain that we are to look for the source of morbid feeling and conduct in such instances as we have been considering, but in the activity of the visceral functions, in "these organic effects of the physiological consensus of organs which determine at bottom the play of the affective nature" (Maudsley).

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H. M. Prison, Holloway.

WIGAN INFIRMARY OUTDOOR DEPARTMENT.—At the Wigan Infirmary 10,000 patients are treated annually. The mayor, Mr. Sam Wood, during his four years of office, has tried various devices to raise £10,000 to erect and equip a new out-patient department, but he has succeeded in securing less than one-third of this sum. On Sept. 23rd a money-raising scheme took the form of a carnival procession through the principal streets with a "Pageant of Empire" at the Central Park, but it is to be feared that the rain counteracted the expected pecuniary benefits

STRANGULATION BY VOLVULUS IN AN ABNORMAL SAC LYING WITHIN THE GENERAL PERITONEAL CAVITY.

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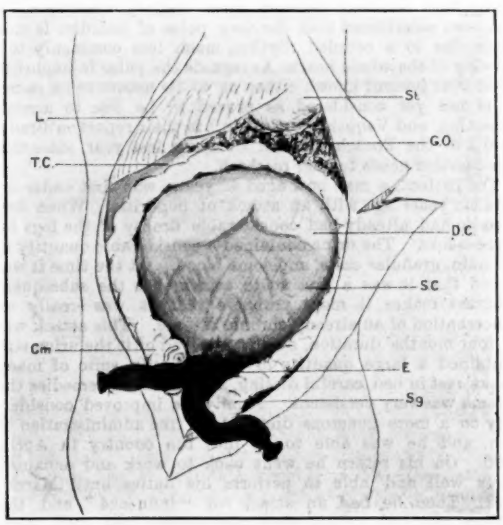
THE subject of the condition described below was a man, aged 46, who was admitted to the Leeds General Infirmary on August 3rd, 1908, in a moribund condition, and who died without any operation having been performed. He had been under the care of Mr. W. W. Walker of Batley with symptoms of acute intestinal obstruction which had begun five days before, and had resolutely refused to come into the infirmary till the day of admission. There had been no preliminary warnings of intestinal trouble previous to the sudden onset of acute symptoms.

When the abdomen was opened at the necropsy a very unusual and interesting state of its contents was disclosed. Occupying the mid-region of the cavity was a large rounded cyst or sac, through the semi-transparent wall of which distended coils of bowel could be seen. The upper coils were large and pale, and had a somewhat transverse direction; the lower were black, as if the subject of strangulation, and had an obliquely vertical arrangement. Below the cyst, the lower portion of the abdomen, which was little more than the pelvis, was occupied by coils of black small intestine which concealed the terminal portion of the large gut. Above the cyst, and encroaching on its shelving upper surface, lay the liver, and in the left hypochondrium the stomach. The great omentum was huddled up into a mass which fitted into the space between the cyst and the stomach. The colon was not visible, but it was found to encircle the cyst, except at its lowest part, and to be attached to its wall in a manner subsequently to be described. (Fig. 1.)

FIG. 1.



Appearance of sac before the parts were disturbed. L., Liver. T.C., Transverse colon. Sg., Sigmoid. E., Entrance to sac. S.C., Strangulated coils showing through sac wall. D.C., Distended coils inside sac. G.O., Great omentum. St., Stomach. Cm., Cæcum.

To permit of the further investigation of parts the strangulated small bowel occupying the area below the cyst was removed. It was a single loop some three or four feet long and the two ends of the loop passed into the cyst through an aperture on its lower surface. The two ends were tied a few inches from the aperture, as represented in the illustration. The whole loop was deeply congested, of a purplish-black colour, and infiltrated with blood. It was not constricted at the neck, and the finger could be introduced alongside the gut through the aperture into the cyst. The entrance to the sac looked downwards and was on the level of the promontory of the sacrum. It was large enough to admit three fingers. The cyst, which will now be referred to as "the sac," occupied the small intestine area within the arch of the colon. To continue the examination it was opened by a central vertical incision through its whole length which terminated by dividing the boundary of the aperture.

For the sake of simplicity the cause of the strangulation will be dealt with at once. The two cut ends of the strangled loop were continuous with similarly affected coils within the sac. There had been no strangulation by the neck of the sac, and no signs of constriction were presented by the portions of bowel that occupied it. The greater part of the ileum was in this deeply congested state which was evidently due to a twist of the lower portion of the mesentery, but the exact mechanism was not made out, as owing to the inexperience of the manipulator the relations were disturbed and lost, and the previous removal of the loop outside the sac added to the difficulties of its demonstration. The jejunum was distended but not strangled.

The small intestine was now removed from the upper end of the jejunum to the lower portion of the ileum. By this the whole cavity of the sac was displayed. On its posterior surface was the quite normal attachment of the mesentery. It lay entirely within the sac. At the upper part the third and fourth parts of the duodenum were in their natural position and covered as usual by peritoneum. The terminal portion of the ileum passed out of the opening to join [the cæcum, which lay just outside and to the right of the mouth of the sac. The ileum at this point was attached by its mesentery, which blended with the margin of the aperture on the right side. (Fig. 2.) The condition may be fairly

FIG. 2.

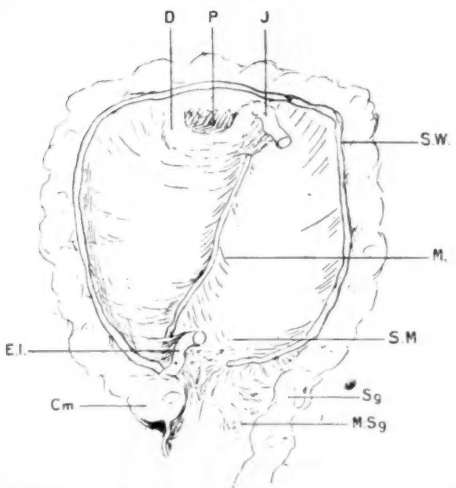


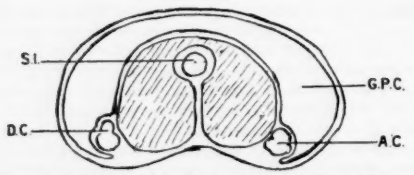
Diagram to show the posterior wall of the sac. The small intestine with its mesentery has been cut away as well as the anterior wall. J., Jejunum. P., Pancreas. D., Duodenum. E.I., End of ileum, with its mesentery. Cm., Cæcum. M.Sg., Mesosigmoid. Sg., Sigmoid. S.M., Mouth of sac. M., Cut attachment of mesentery. S.W., Sac wall.

described as a second and abnormal lesser peritoneal sac, whose natural contents were the small intestine and its mesentery. Some of the contents had escaped through the orifice into the general peritoneal cavity.

The actual anatomical disposition of the peritoneum can most easily be explained by the help of diagrams. Tracing the peritoneum in a horizontal direction (Fig. 3) about the middle of the sac and beginning with the outer layer of its anterior wall it could be followed to the descending colon, which it invested without forming a mesocolon. It was then reflected on to the anterior abdominal wall and lined the parietes till it reached the ascending colon. After investing this—also without forming a mesocolon—it was continued on the anterior wall of the sac to the point from which a start was made. On the inside of the sac the serous

membrane could be traced from the inner surface of the anterior wall to the right till the posterior abdominal wall was reached, but just before this the ascending colon could be seen lying upon its exterior. Passing to the spine the small intestine was invested and the mesentery formed. The posterior abdominal wall was then covered on the left side,

FIG. 3.

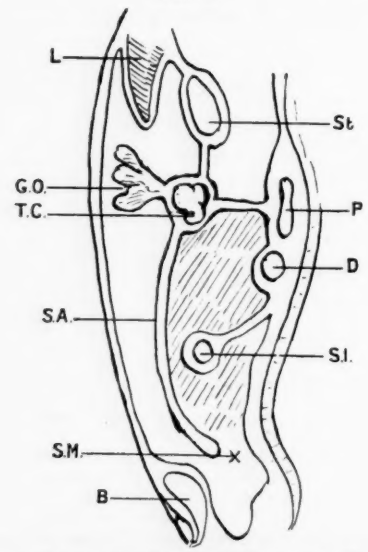


Diagrammatic horizontal section showing relation of the sac to the general peritoneal cavity. The sac is shaded. D.C., Descending colon. S.I., Small intestine. A.C., Ascending colon. G.P.C., General peritoneal cavity.

and as the peritoneum was reflected to the anterior wall of the sac to reach the point from which it started it skirted the descending colon which lay on its outer surface.

A study of Fig. 2 will make plain the way in which the terminal part of the ileum was tethered to the margin of the neck of the sac by the two layers of its mesentery which diverged to become continuous with the peritoneal covering of the aperture. A vertical section through the mouth shows how the two layers of peritoneum by which the anterior wall was formed blended at the free margin and also how the posterior peritoneal lining of the sac was continuous with the peritoneum lining the pelvis. (Fig. 4.) The neck of the

FIG. 4.



Diagrammatic vertical section passing through the aperture in the sac. The sac is shaded. L., Liver. G.O., Great omentum. T.C., Transverse colon. S.A., Anterior wall of sac. S.M., Mouth of sac. B., Bladder. S.I., Small intestine. D., Duodenum. P., Pancreas. St., Stomach.

sac contained no large vessels, but it was slightly rounded and thickened. The anterior sac wall was also destitute of vessels of any size.

It is evident that this unusual condition was in no sense a hernia, and that consequently, notwithstanding a certain suggestive similarity in appearance, the pathology must be quite different from that of the various forms of internal abdominal herniæ. I have discussed the case on several occasions very carefully with Professor J. Kay Jamieson, who has referred me to a paper by Dr. J. Cameron and Dr. J. D. Lickley,[1] in which is described an abnormal peritoneal sac very similar to this one, but without any aperture; and also to the report of another case by Professor Clelland (mentioned in their paper) which would appear to have some resemblance to it. I had hoped that Professor Jamieson would have joined me in this communication and given a description of the way in which such a condition might arise in the process of development, but at the present time he feels unwilling to commit himself to an explanation which subsequent research may show to be incorrect. As the whole subject is one in which he is much interested it has been decided that the case shall be published now, and at some future date he may in a separate communication deal with the condition from the anatomical standpoint.

Personally I believe that the abnormal sac is a consequence of an irregularity occurring during the evolution of the large intestine. With a piece of rubber tubing to represent the bowel and a towel to constitute the mesentery, it is quite easy by imitating the normal rotation of the colon and the passage of the cæcum to the right side to produce a sac, such as existed in this case, either by the formation of a fold in the mesocolon and its adhesion to the posterior parietes, or by adhesion at some point of the right peritoneal layer of the mesocolon. But I must content myself with this simple statement, for the description of the manner of its production—in such a way that it could be understood—is beyond me.

Leeds.

[1] Journal of Anatomy and Physiology, vol. xli., p. 88. The reference to Clelland's paper in this article does not seem to be correct.

BRADYCARDIA IN ASSOCIATION WITH URÆMIA.

BY E. E. LASLETT, M.D. VICT., B.SC. LOND.

IT is well known that an infrequent pulse is occasionally associated with some forms of toxæmia, particularly those which accompany catarrhal jaundice and chronic nephritis. An infrequent pulse may be due to three different causes: (1) the regular occurrence of extra-systoles not perceptible to the finger on the pulse (coupled rhythm); (2) heart block, partial or complete; and (3) slowing of the whole heart. It is only since the introduction of the graphic method of studying heart affections that it has become possible to distinguish certainly between these distinct conditions. It has been ascertained that the slow pulse of jaundice is most often due to a coupled rhythm, much less commonly to a slowing of the whole heart. As regards the pulse in nephritis, little is at present known either as to its nature or its cause. It is not yet considered as proved to be due to uræmic poisoning, and Vaquez and Esmein,[1] in their report on Bradycardia to the French Medical Congress last year, state that the question needs further research.

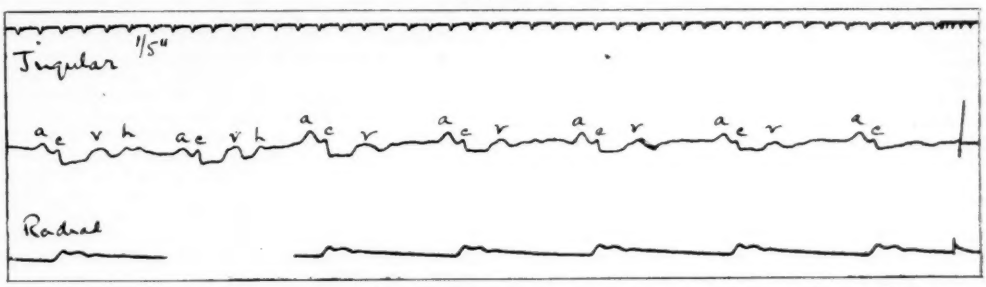
The patient, a man now aged 42 years, was first under my care six years ago with an attack of nephritis. When first seen he had already had considerable dropsy of the legs for three weeks. The urine contained a considerable quantity of albumin, granular casts, and some blood. At the time it was hoped that it was a first acute attack, but the subsequent progress makes it more probable that it was really an exacerbation of an already chronic disease. This attack was of four months' duration, and at the end of it the urine still contained a large quantity of albumin. In spite of many weeks' rest in bed, careful dieting, and the usual remedies the œdema was very persistent. Finally, he improved considerably on a more generous diet and the free administration of iron, and he was able to go into the country in April, 1906. On his return he went back to work and remained fairly well and able to perform his duties until March, 1908. Then he had an attack of "influenza" and the œdema returned. This time the disease was still more resistant to treatment than before, and he was in bed for over eight months. In spite of all the usual remedies the amount of urine often fell very low and the œdema gradually spread upwards, fluid collected in the abdominal and pleural cavities, and the breathing became at times very distressed, particularly at night. At times there was almost total suppression of urine, and for many weeks the onset of severe uræmia was feared. The exclusion of salt from the diet appeared to have little effect as regards producing diuresis. It may be mentioned here that the patient was extremely fond of

[1] Vaquez and Esmein: Archives des Maladies du Cœur, Paris, December, 1910, p. 732

salt. On his recovery from this attack he was warned to be sparing in his use of this condiment, and it is perhaps noteworthy that he has remained practically free from dropsy up to the present time. Finally, the head of the bed was raised six inches, and the dropsy so encouraged to sag into the lower extremities, whence it was drained off by Southey's tubes. In the course of about two months about 50 pints of fluid were thus drained away, and in this manner he was kept fairly comfortable, without, however, any striking improvement in the amount of urine. This soon diminished alarmingly whenever the dropsy was allowed to make headway, as when the tube had to be withdrawn. Ultimately the legs became too sore and inflamed to allow of the continuance of this treatment. As a last resort he was put on sodium theocin acetate (with digitalis), which had not previously been tried. The result was most striking. In a week the œdema had practically disappeared. He then gradually improved, and he was able to resume his work in March, 1909, after a year's illness. His systolic blood pressure taken on several occasions during the illness ranged about 160–165 mm. Hg (Oliver). Curves were taken on several occasions from the radial pulse. Nothing abnormal in the rate of the pulse was ever met with had now fallen to 42. The skin was reacting well to treatment and the bowels had been well moved. Next morning he was about the same. He had passed no urine for 12 hours. The pulse was still slow, slightly varying in rate, but 46 per minute on the average. Later he passed urine and on the following day he was brighter. Urine for the past 24 hours 10 oz. The pulse-rate had now risen to 50. With further diaphoresis and purging he progressed rapidly. The urine increased and coincidently with that the rate of the pulse. On the 27th he was passing urine freely, and the pulse-rate was now normal at 70–72. He was kept in bed a week longer, and in another week he was able to resume his work. The blood pressure, measured when the pulse was slow, was found to be 150 mm. Hg, systolic (Hill).

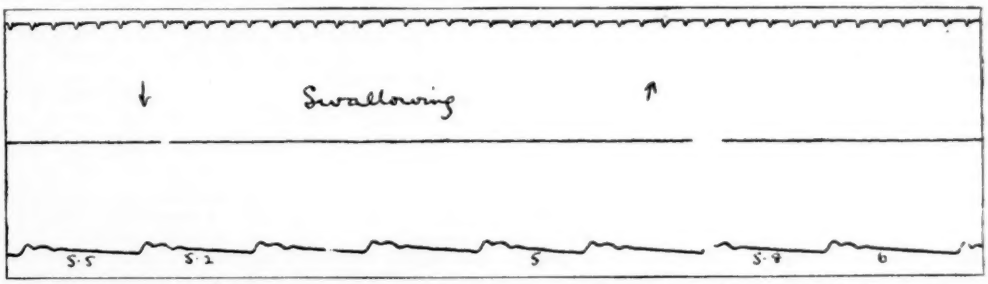
From the curve in Fig. 1 it is evident that it is a question of a slowing of the whole heart, auricles and ventricles being equally affected. The *a.-c.* interval is normal. Although it was not deemed advisable to apply the atropine test, it seems justifiable to attribute the slowing of the heart to heightened vagus control. There was a slight degree of sinus arrhythmia, dependent upon respiration. Occasionally this was more marked, as the following pulse intervals (in fifths of a second) show—6·2, 6, 5·9, 5·6 (inspiration), 6, 6·8, 7.

FIG. 1.



Simultaneous curves of the jugular and radial pulses, to show that auricles and ventricles are equally affected. The *a.-c.* interval is normal. Pulse-rate 46 per minute March 23rd, 1911.

FIG. 2.



Shows the increase in pulse-rate due to a series of swallowing movements, the duration of which is indicated by the arrows. March 23rd, 1911.

during this illness. Since that time he has kept remarkably well. Except for about a fortnight, when he was operated on for ischio-rectal abscess, he has been steadily at work. His wife has at intervals roughly tested the urine for albumin by boiling, and she states that the amount of coagulum diminished very considerably. During the latter part of February of this year it had, however, again increased, and he had not been quite so well, although he remained at work.

His present attack began suddenly in March. On the 18th he got a chill while working late at night in an exposed place. Next day the temperature was 101° F., pulse 80 per minute, and there were a few rhonchi in the lungs. The urine was not measured, but it had diminished considerably. Next day the temperature was normal, pulse 64–70. The urine had still further diminished. It was smoky and loaded with albumin. On the 22nd the urine was less than 10 oz. He was now rather drowsy, complained of constant headache, and vomited several times. The eyelids were rather puffy, but there was no œdema of the legs. The pulse-rate Exertion slightly quickened the pulse-rate. Further, two or three swallowing movements made in succession definitely increased the rate temporarily, which slowed again just after the last swallowing movement (Fig. 2).

Danielopolu[2] has recently reported two cases of bradycardia observed in the course of nephritis. In both cases the slow pulse was due to a true bradycardia from increased inhibition. In one of the cases the development of the slow pulse was observed, and the writer considers that there is good evidence that the bradycardia was due to uræmic intoxication. In the present case the infrequent pulse was due to a true bradycardia. It was a new feature, never having been observed in his previous acute attacks, and inasmuch as the gradual development of the bradycardia coincided with the onset of uræmic symptoms, and its cessation with the increase of the urine and the disappearance of the dangerous symptoms of poisoning, it is at least very suggestive that the

[2] Danielopolu: Archives des Maladies du Cœur, Paris, July, 1911 p. 417.

condition of the heart was due to the uræmic poison acting probably through the inhibitory mechanism. The fact that the bradycardia was observed only in the last attack and never during the previous long illnesses may possibly be related to the acuteness of onset of the symptoms of uræmia and the rapid diminution of urine.

Hull.

OPEN-ETHER ANÆSTHESIA:
SOME IMPROVEMENTS.

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AT the present time there is no need to enlarge on the claims of ether anæsthesia by the open method. They are generally recognised. For the past 18 months it has been my custom to employ this form of anæsthesia. The number of cases at the Aberdeen Royal Infirmary anæsthetised by me in this manner is 400, and on the records of these the following remarks are based. I have no fault to find with chloroform, except that it is a drug with which one may do more harm of a really dangerous character than ether; and therefore if as good results can be got with ether it is our duty to the patient as anæsthetists to use it

It used to be said that it was impossible to anæsthetise a person with ether alone, and it is true there are difficulties. These difficulties have brought about the general plan of putting the patient "under" with chloroform first, and then instituting open-ether anæsthesia. I have endeavoured to avoid doing this, and have succeeded in all but two cases in giving ether from start to finish. The modern major operation is often prolonged, and may involve extensive interference with anatomy and with physiological processes. In such cases there is little call for administering any anæsthetic which will encumber the vital organs. Chloroform, or ether by the close method, will certainly do this. The period of induction of anæsthesia is with chloroform fruitful of danger, and it is desirable, therefore, to exclude it even as a preliminary.

The method employed here is very simple. Several layers of ordinary white gauze are put into a Schimmelbusch's frame, so forming a mask, which is placed over the patient's mouth and nose. Ether is dropped on this from an ordinary drop-bottle, and the vapour so produced is intensified gradually by winding a roll of white gauze round the edge of the mask, perhaps adding a fold or two to the thickness of the mask itself. In six minutes the patient is anæsthetised, and during this time the preparation of the skin for incision can be actively proceeded with and the patient placed in the Trendelenburg position if necessary.

When this method was first tried it required from 3 to 4 oz. of ether to put the patient "under," sometimes even more; but the improvements which I will endeavour to describe have greatly reduced both the quantity of ether and the time necessary for full anæsthesia. The total quantity used was often 10 to 15 oz., but we have succeeded in reducing this to from 1½ to 2 oz., even for a long operation, with very few exceptions.

The difficulties met with in putting a patient "under" ether are that in many cases spasm of the jaws and glottis takes place at an early stage, and however much ether is poured on very little is inhaled and a great deal escapes into the room. Again, the vapour is apt to cause increased secretion of mucus and saliva, which collects in the pharynx and larynx, becoming converted into foam by agitation during the movements of respiration. This adds another obstruction to the inhalation of ether, and a certain amount of cyanosis takes place with great delay in the induction of anæsthesia. I know of nothing which will remedy this condition readily, for to mop out the throat only serves to stimulate the mucous membrane to further secretion during the second stage of induction, and any such attempt is greatly resented by the clenched jaws. Sharp rubbing of the lips and nostrils with a towel sometimes helps. As full anæsthesia is reached these adverse conditions gradually disappear, the mucus is swallowed, the jaws relax, and the colour improves. But should the patient be allowed, even for a short time, to return to the second stage, as may happen if the patient is moved about, all the difficulties reappear.

In my experience, seven out of every ten cases present those difficulties in varying degrees, where no preliminary treatment of the patient has been resorted to. If, however, 1/100th gr. of atropine sulphate is given in conjunction with 1/6th gr. of morphine, hypodermically half an hour before operation, it is very rare to find any of these difficulties, and in these rare cases it will be found that the injection has been too superficially given. I have records of 280 cases treated this way. The injection soothes the patient's mind before operation, and prevents spasm of the air-passages and jaws. Anything like the chloroform excitement stage is never met. The shock of operation is, to a large extent, prevented by rendering the brain centres less sensitive to afferent impulses from the operation area. Mucus secretion in the throat is greatly lessened. There is never any cyanosis or dyspnœa to speak of. Less ether is used because more is really inhaled. There is practically no sickness, and the patient remains in a comfortable sleep for several hours, which has naturally a good post-operative effect.

The value of omnopon[1] in the administration of ether has been brought before your readers by Mr. H. M. W. Gray's experiments, an account of which was published in THE LANCET of Sept. 2nd. For the first three or four months of these tests I had to administer ether in the omnopon cases very frequently. The number of cases of omno-ether anæsthesia at the hospital is 220. Lately, the number of cases requiring ether—i.e., where omnopon and local anæsthesia have been insufficient—has been much reduced, chiefly due, I think, to the skill Mr. Gray has acquired in injecting the novocaine. He welcomes honest criticism, and will not mind my remarking on the extraordinary complexities of the pharmacological question involved in his form of anæsthesia. First, there are the various alkaloids in omnopon, numbering something like 15. Add to that scopolamine, novocaine, adrenalin, and finally in 20 per cent. of cases (his own figures) ether, and one has a medley of empiricism which appears regrettable.

The type of anæsthesia which I advocate—viz., omno-ether—is certainly open, but to a lesser extent, to the criticism of pharmacological complexity, but I think it will be found to excel most other forms of anæsthesia, pending the perfection of the ether "Narkose intravenöse," which is still only on trial.

Let the patient have a deep subcutaneous injection of one dose of omnopon, at any rate an hour previous to operation. This may be given by the nurse. It will be found, when the patient is placed on the operating table, that he is in a slightly sleepy condition. Place the mask over the nose and mouth, and in three or four minutes, as a general rule, having administered half to one ounce of ether, the patient is snoring comfortably and absolutely lax. No difficulty is experienced in maintaining this condition with another half-ounce of ether for an hour. I heard the condition lately described, and I think well, as synthetic sleep. The pupils are slightly contracted and react to light. I have noticed in some cases slight and temporary divergent strabismus. The conjunctival reflex is absent. The face is slightly flushed a pink colour. The pulse is full and steady. The respirations are slow and deep, perhaps 12 to 15 a minute. There is no mucus production in the throat, and no spasm or tremor. After a three hours' operation the patient is practically in the same condition as at the start.

Where an effort has been made to perform the operation with local anæsthesia, and for that reason a larger dose—say 1½ to 2 ampoules—of omnopon has been given, the respirations may be reduced greatly in rapidity, giving some anxiety, but a little ether inhaled will accelerate them again. In such cases I have seen the respirations slow down gradually, even when ether is being given, but only after a very prolonged operation. Oxygen will then be found of value. With these exceptions, none of the omno-ether cases have ever given me the slightest anxiety during the administration, nor have there been any injurious after-effects. Pathological lesions in the heart, lungs, or kidneys seem to be no drawback to ether anæsthesia by this method, as far as our experience goes. There has been no selection of cases whatever.

Aberdeen.

[1] Hoffmann-La Roche, 7, Idol-lane, London, E.C.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES ON A CASE OF PERSISTENT CHYLURIA MARKEDLY INFLUENCED BY POSTURE.

BY FRANK CHARTERIS, M.D. GLASG.,
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CHYLURIA results from an abnormal communication of a lymphatic vessel with the urinary tract. In this country it is uncommon, but in tropical regions, where filariasis is endemic, chyluria is common. The filaria either causes an obstruction by blocking up the lymphatic tract, or the obstruction may be the result of secondary changes of an inflammatory type induced by the presence of the filaria. In either case the lymphatics distal to the obstruction become varicose, and chyluria is set up if one of the distended vessels ruptures into the patent urinary tract. It is obvious that any other obstruction, apart from filaria, which interferes with the normal passage of chyle and lymph through the thoracic duct may also cause chyluria by setting up, first, distension and varicosity of the vessels distal to the obstruction, and then rupture of one of the distended vessels. As a matter of fact, chyluria apart from filariasis seems very uncommon. Lüdke[1] in 1908 was only able to collect ten cases of non-parasitic chyluria from published records. The case which I now record seems also to be an instance of non-parasitic chyluria.

The patient is an Austrian, aged 59 years, who noted the chyluria first in May, 1900. In early life he was a sailor and visited Egypt, India, Brazil, America, and the East and West Indies. So far as he knows he never became infected with filaria, but for many years suffered from malaria. Since 1875 he has made his home in Glasgow, and has never been out of the country since 1880. He is an outdoor worker and is also often employed at the fruit market. Apart from repeated attacks of ague he enjoyed good health till May, 1900, when he noticed that every two or three days the morning urine tended to be very milky. Two months later he began to suffer from dull pain and uneasiness in the loins after working hard or lying long in the same position. After this had gone on for some ten weeks he woke up one morning and was unable to pass his urine. This inability lasted for some hours, but eventually after severe straining he dislodged a thick clot and was then able to micturate freely. Subsequently he had similar attacks, and on one occasion he noted that blood came along with the clot. About this time he observed that the urine standing overnight clotted.

The patient was admitted to the Western Infirmary under Professor R. Stockman's care in 1902, when the chyluria had persisted for nine months. At that time the urine was very milky, containing fat droplets, lymph cells, epithelium, and a few casts. No filariæ were present. The urine varied in appearance at different periods of the day. When it was chylous it contained albumin but no sugar. It was noted that posture had an important effect upon the urine. If the patient lay down after taking a meal the urine became rapidly chylous. Thus as a rule the chyluria was most evident in the morning, especially if he had taken food just before going to bed. It is interesting to note that in the summer months the morning urine remained much clearer. This seemed to arise from the fact that the patient's occupation necessitated him being out of bed from 2 to 6 A.M. During the time the patient was in hospital chyluria could be induced at any time of the day by giving him a glass of milk and then making him lie on his back. Repeated and systematic examination of the blood failed to demonstrate any filaria even when films were made at two-hourly intervals for a consecutive period of 24 hours.

After a residence of several weeks in hospital the patient went out with the urinary condition practically unaltered. Subsequently I lost sight of him for four years, when he consulted me at the Central Dispensary on one or two occasions. By that time his urine had become much clearer, but was still milky.

In December, 1910, the patient again sought admission to the Western Infirmary on account of gastric disturbance, which was producing flatulence, palpitation, and dizziness. During his stay in hospital it was found that the chyluria still persisted, though it was much less marked than in 1902. Repeated examination of the blood and urine again failed to reveal any filaria. It was found that the chyluria was markedly affected by the position of the patient. When he was upright the urine was practically free from fat, but if he reclined at an angle greater than 45° he promptly began to pass milky urine; but if he sat in an upright chair the urine remained clear. The most milky urine was passed when he lay flat on his back. On the other hand, he could lie flat on his face without the urine becoming milky, but it became milky as soon as he turned round and lay on his back.

The conclusion we came to was that the chyluria was due to some intermittent pressure exerted on the thoracic duct by some factor which only became operative when the patient assumed certain attitudes. Probably the obstruction was a pedunculated calcareous gland. There was no enlargement to be felt in any of the abdominal glands, and an X ray examination failed to reveal any calcareous masses. Still, on the whole, a moveable enlarged gland seems to be the most likely explanation of the intermittent obstruction.

The patient would not allow a cystoscopic examination to be made, so that it was impossible to determine whether the chyle leaked into the bladder or was mixed with urine at a higher portion of the urinary tract. Lüdke was able to show that in his case of chyluria, which developed as a sequel to an inflammation of the bladder due to infection with B. coli, the urine left the ureters free from chyle, but became chylous in the bladder. Hertz[2] examined a case of chyluria and post mortem found the obstruction of the thoracic duct above the diaphragm, and the communicating ruptured lymphatic vessel in the bladder.

Glasgow.

[1] Münchener Medizinische Wochenschrift June 30th, 1908.

A CASE OF NECROSIS OF ALMOST THE ENTIRE CLAVICLE.

BY ROBERT E. HALAHAN, M.D. DURH.,
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NECROSIS of the clavicle in the form of scaly sequestra due to tuberculosis, &c., is not a very rare occurrence, but such an extensive involvement of the bone as the following case presented does not seem to have been frequently observed.

The subject of the present case, a man aged 28 years, was admitted to the British Hospital, Buenos Aires, on Jan. 28th, complaining of a swelling on the right clavicular region. He stated that three years before he had been treated in a Manchester hospital for syphilis, when he had a chancre followed by eruptions on the skin of an ulcerative kind. He had 18 months' continuous treatment with mercury. The swelling occupied the root of the neck and the supra-clavicular fossa; it was red, indurated, and not very painful to the touch. The temperature varied from 37° to 38° C. Ten days previously a ship surgeon had made an incision just above the inner third of the clavicle, but no pus came from it, and it was closed when the patient entered the hospital. The wound was again opened and a large quantity of pus escaped. No dead or exposed bone could be found, and the cavity seemed to extend behind the clavicle towards the axilla. A tube was inserted, but the temperature continued high, and a few days after exposed bone was felt with a probe. The wound was now thoroughly opened up under chloroform, and it was found that the whole clavicle was denuded of periosteum and lying in a tube lined by dirty granulations. The bone, which was quite white and clean-looking, like a museum specimen, was still attached by the ends, and no attempt was made to remove it, in the hope that it would act as a stay until the periosteum recovered and began to lay down a new clavicle. Fig. 1 gives a good idea of the condition, though only the inner end of the clavicle can be seen, owing to the camera having been placed too low down. The periosteal tube was split from one

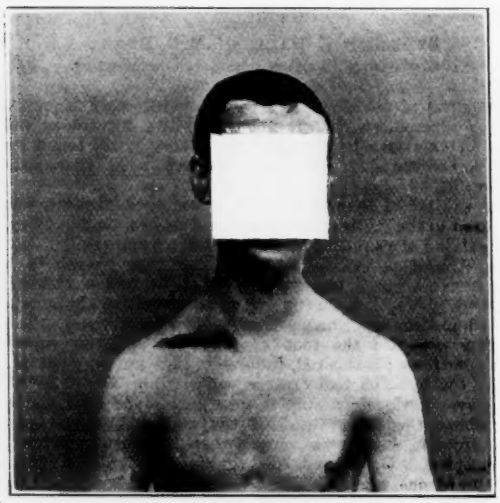
[2] Royal Medical and Chirurgical Society, March, 1907. THE LANCET, March 16th, 1907, p. 733.

end of the clavicle to the other and the wound lightly packed with iodoform gauze. Thirty days later the sequestrum, which became loose, was removed; it consisted of the entire

FIG. 1.

clavicle minus the articular surfaces, which seem to have survived. Gradually the wound closed up and a thick deposit of new bone formed in the site of the clavicle; in

FIG. 2.



fact, a new clavicle has been laid down. There is practically no deformity, as can be seen in Fig. 2, and the arm is functionally sound.

Buenos Aires.

ST. MARY'S HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON).—The following have been elected to Entrance Scholarships at this school for the year 1911. University scholarships: 50 guineas, A. S. Cohen, University College, Cardiff; 50 guineas, F. A. Williamson, B.A., Queen's College, Cambridge. Open scholarships in natural science: £50. G. E. Barker, Latymer School and Birkbeck College; £25, A. R. Fuller, Leighton Park School, Reading. Epsom College Scholarship: T. R. Davies.

Reviews and Notices of Books.

The King's Evil. By RAYMOND CRAWFURD, M.A., M.D. Oxon., F.R.C.P. Clarendon Press. 1911. Pp. 188. Price 8*s.* 6*d.* net.

PRIMITIVE medicine at the dawn of history, and even at an earlier date, consisted mainly in so-called magical operations—i.e., charms, incantations such as the Homeric ἐπαοιδή, and occasionally the administration of herbs gathered at certain seasons, with appropriate prayers. Such prayers, even in Christian times, were often frankly Pagan, and a good example thereof is to be found in the British Museum (MS. Harl., 1585, fol. 12a ff.) in the shape of a prayer to the great Earth Goddess at the gathering of medicinal herbs. Trephining was known to and practised by our Neolithic forefathers, probably with a view to affording a means of escape for evil spirits; but, on the whole, in early ages medicine was of a less material nature. In process of time medicaments of infinite variety, and often of appalling nastiness, began to be employed, while the methods of surgery were crude and necessarily painful. It is not astonishing, therefore, that the magical methods held their ground, for they offered a *via media* between the repulsiveness of medicine and the anguish of surgery; and it must be remembered that the terms "magical" and "magician" did not originally connote any idea of trickery or deception, but simply conveyed the possession of knowledge.

All knowledge being held to be of divine, or at least of supernatural, origin, it would seem natural that the class of society the members of which were in communion with Deity should possess more knowledge than those who were not so; hence the priest, the prophet, and the king were the repositories of learning, and especially of the healing art or faculty. Of these three classes, the sovereign at first bestowed the healing touch, conferred on him by his "sacring," to the cure of many diseases, but by the time of Henry II. the diseases curable by the royal touch seem to have been narrowed down to two—namely, plague and scrofula. That these two diseases should have flourished in the time of Henry II. is no wonder, if we can believe Peter of Blois's account of the court of that energetic monarch, who, desiring to see with his own eyes, made perpetual progresses up and down the country. The discomfort, the dirt, and the total lack of any sanitary laws during these progresses may be read in the fourteenth letter of Peter, "Ad Clericos Aulæ Regiæ." The lodging was bad; the food was execrable; "sick beasts were sold at random with fishes even four days old." If such was the life at court, that of the common people was probably worse, and there would be no lack of patients for the royal healer to cure.

The King's Evil and the History of the Royal Touch form the subject of the latest treatise in medical history. Dr. Raymond Crawfurd has in this volume expanded his Fitz-Patrick lectures for 1911 into a treatise on the history of the royal touch, which is of extreme interest to all who take thought for the origins of medical custom. The first European king who is recorded to have healed the sick by his royal touch is Robert the Pious (996–1031), who healed "sick folk and chiefly lepers," but Philip I. (1061–1108) and his son Louis VI. (1108–1137) did actually touch for the cure of scrofula, which had not yet acquired the title of *morbus regius*. Healing by touch was apparently then considered a prerogative of the kings of France, for Guibert de Nogent, who records the healing by Philip and his son, concludes by saying that he knows nothing of the power of other kings in this matter, but "I know that the English king makes no attempt to do likewise." Edward the Confessor

had, however, touched for the evil in England shortly before his death in 1066, a rite which he had previously practised when in exile at the Norman Court from 1013 to 1041. He was probably led to this practice by the example of the French kings, as was another monarch, Olaf of Norway (1015–1028). It is true that the healing which Dr. Crawfurd quotes from the Saga reads as if it were a tonsillar abscess broken by gentle massage, and at first Olaf's powers were attributed to the fact that he had "good hands," but the case is of importance as carrying on the tradition of royal healing. After the reign of Henry II. historical evidence that his successors exercised the power is wanting until the reign of Edward I. In the meantime the title "Morbus Regius" had come to mean scrofula as well as jaundice, which alone it signified in classical times. Gilbertus Anglicus, Bernard of Gordon, and John of Gaddesden, who between the birth of the first and the death of the last cover the period 1160–1361, all use the term, and all say that kings have the power of curing it. It is notable that while Bernard puts the royal touch as superior, or at least equal, to surgery, Gaddesden, a little later, possibly owing to the practical English temperament, advises the possible remedies in the following order—medicines, royal touch, and if both fail surgery.

And so the record runs down the ages, with an occasional interruption. The last sovereign to touch for the evil was Queen Anne, but the service "At the Healing" appeared in the Prayer Book of George I., and the reader may trace in Dr. Crawfurd's pages the gradual changes which the ceremonial underwent. But though touching in England ceased with the last of the Stuarts, in France, where apparently the custom arose in Europe, Charles X. revived the whole office at his coronation in 1824. As a scholarly and careful record of a by-way of medicine, of a custom, too, which goes back in its inception to the earliest times, and is connected with some of the deepest feelings of human nature, the desire for health and faith in the supernatural, this book can be commended.

Trattato dei Neoplasmi Maligni, preceduto da uno Studio sulle Infezioni Chirurgiche in Generale. Volume Primo. Con 81 figure nel testo e una tavola a colori. Pp. xlvii. – 944. Di Professor D. B. RONCALI, Directore del R. Istituto di Patologia speciale Chirurgica della R. Università di Padova. Torino: Unione Tipografico-Editrice Torinese. 1911.

IN no subject is the disparity between our actual knowledge of it and the enormous amount of work which has been expended on it so marked as in that of cancer. The present book, which brings together more information than any other we know upon this subject, underlines this statement. Its author, Professor D. B. Roncali, is Director of the Institute of Surgical Pathology in the University of Padua, and its production is a proof that the fire of research which burned there many centuries ago is still alight. It is a book in which 20 years of labour and experiment, combined with learning and insight, have all contributed to produce a result which, in our present knowledge, should be a stimulus to those working at its main subject, as well as a storehouse of information for them. There is one thing which may to some extent lessen the usefulness of this book, and that is the fact that its author is of opinion that there must be a specific parasitic cause of cancer. But we really know so little of the immediate cause of cancer that this ought not to stand in the way of a proper appreciation of work which is so comprehensive and wide. The author, by the way, disclaims the idea entirely that this is in any way the last word upon this difficult subject, knowing well that we have yet nothing like sufficient knowledge even to make a few generalisations on it. He appreciates the difficulties of divided work on cancer; he knows that the clinician has not the necessary time even to follow, and cannot have the necessary knowledge to enable him adequately to judge of the vertiginous movements of the biology of to-day. So he approaches the subject alike from the clinical, experimental, and pathological points of view; and the book is divided into lessons, in which the separate arguments can be treated with less rigidity than in formal chapters, making the whole very pleasant and easy to read. Those who have had to wade through the thousands of papers and books on this subject will appreciate the advantage of this. The author, unlike many modern writers on the same subject, has made much use of clinical observations. He is convinced of the principle, which ruled in medicine from Morgagni to Claude Bernard, that whatever the importance of an experimental discovery may be, it can never lower the supremacy of clinical observation; and he takes as motto the well-known words of Protagoras: *Πάντων χρημάτων ἄνθρωπον μέτρον εἶναι.* He first uses observations, and then illuminates the facts observed by experiment, which seems to be the logical course. We are apt to forget that before the experiments in the laboratory of to-day were a thousand years of clinical observation.

The whole work is to consist of six parts, of which three constitute the present volume. These are: 1. Conceptions of inflammation. 2. Classification of surgical infections. 3. Anatomical, pathological, and clinical criteria by means of which malignant new growths ought to be separated from benign, and to be considered as infections, or inflammations *sui generis*. The analogies between inflammatory processes and cancer, and the looking on cancer as a specific reaction are, of course, not new. The same views were suggested by Plimmer many years ago, but they are here worked out with such detail and instance that they assume quite different proportions and become thoroughly suggestive. In the first part the limits of inflammatory processes are established. In the second part the general characters of surgical infections are described. For purposes of description these are divided as follows: those in which the effect is entirely toxic (tetanus); those which are toxic and in which the parasite also plays an active part (septicæmia, pyæmia); suppurative (abscess, phlegmon); erythematous (erysipelas); pseudo-membranous (hospital gangrene); those in which the parasite exerts its pathogenic power on particular cells—e.g., in rabies on the pyramidal cells, in osteomalacia on the bone cells, in coccidiosis on the epithelial cells of liver, intestine, and skin; the granulomata (tubercle, leprosy, &c.); and malignant neoplasms, epithelioma, sarcoma, &c). These two parts are to be looked upon as a preparatory study to the third part, which treats of malignant new growths in general and in particular, and the author here brings a large amount of anatomical and clinical evidence together to support his view that the cause of cancer is either a parasite, or something which acts on the cell as a parasite. He makes a most minute study of the biology, morphology, and degenerative processes of neoplastic cells, and of carcinomatous foci, in which they are compared biologically, morphologically, and in regard to degenerations with the cells and foci of various infective processes, particularly with the granulomata, whether spontaneous or experimentally produced; and his conclusion is identical with that of Menetrier, who, notwithstanding his opposition to the parasitic view of cancer, does not hesitate to say that "all the morphological alterations of the cancer cell are to be met with in cells altered by inflammatory processes, with this difference, that in malignant growths of connective tissue the acute and subacute inflammatory processes will furnish the more exact type of comparison, whereas in epithelial cancer,

the type of comparison will be found in chronic inflammatory processes." The study of the manner of the formation of metastases has added new arguments for the demonstration of the intimate bond between malignant neoplasms and inflammatory processes, and likewise has made clear the mode by which carcinomatous diffusion in the body of the host is to be differentiated from that of any other infective process, and helps to explain why cancer should be called an infection *sui generis*. Following his rule of taking the mass of anatomical and clinical facts before the experimental, the author shows that in new growths the occurrence of metastases can take place in two ways: either by specificity, or by cellular infection. In the first class are those metastases which histologically reproduce exactly the primitive growth; this is the commoner means of the diffusion of cancer and belongs exclusively to cancer. In the second class we have those metastases which are histologically quite different from the original growth, and these are exceptional forms of metastases, their genetic mechanism being common to those of the granulomatous processes; for in this case the neoplastic cell acts as if it were a parasite, exciting the tissues with which it comes in contact to proliferation, not first multiplying itself. The author thinks that the clinical and experimental facts justify the belief that, in this second contingency, the neoplastic cell is able to provoke a metastasis by exercising an action which is directly infective by means of its protoplasm, and an indirect action by means of parasites which may be contained in it.

The next part of the volume discusses the complex series of phenomena which constitute the cancerous cachexia, or toxæmia, caused by probably many poisonous substances which are eliminated by the cancerous foci and the metastases, by means of which the cellular elements of various organs become deteriorated in structure and perverted in function. The differences in the effects according to the situation of the cancer are very well described—e.g., in a gland with only internal secretion, and in one with both internal and external secretion; the histological and functional alterations of the various organs are clearly stated and arranged; the anæmia, wasting, fever, œdema, and the various psychoses are discussed at length, and are compared with the consecutive phenomena of chronic infective diseases, such as tubercle or syphilis; and the author concludes that cancerous cachexia or toxæmia in its anatomical, pathological, and clinical complex has in it nothing specifically characteristic, nothing which cannot be found in the general intoxications consecutive to various infective processes, especially the granulomata. The author insists upon the intimate relationship of the cancerous processes with infections in general and with the granulomata in particular, and with their absolute separation from those of benign growths. As a natural corollary there follows a complete study of the histological texture of the separate malignant growths. The comparisons between the early stages of cancer, in which the transition from a normal cell to a cancer cell takes place, and the alterations in inflammatory tissues during the progress from an acute inflammation to a chronic one, are extremely well worked out and are full of suggestiveness. To most readers the pathological and histological studies of the various species of new growths will appeal; they are clear and well done, and especially good is the section upon complex tumours, a subject which is generally very confused and confusing.

The whole of this part of the book forms an excellent treatise on oncology, in which there is an attempt at both synthesis and reorganisation, according as the histogenesis is able to be interpreted respectively by the doctrine of blastomeres of Bonnet and Marchand, by that of cellular metaplasia, or by the author's "ovo-spermoblastic" doctrine. The classification is essentially embryonic, and the carcinomata, in the broad sense, are divided into four subdivisions: (1) connective tissue tumours (sarcoma, endothelioma, perithelioma, and lymphoma); (2) epitheliomata (epithelioma of the various kinds, neuro-epithelioma—subdivided again into glioma and its varieties, and gliopyramidoma); (3) complex tumours (divided into blastomeric, metaplastic, and ovo-spermoblastic tumours); (4) placentomata (divided into chorion-epithelioma, deciduoma, and chorion-deciduoma). After a description, both general and particular, of the clinical characters and histological texture of all the sarcomata; of the epitheliomata proper and the neuro-epitheliomata; of the cellular metaplasia connected with the mixed sarcomatous tumours; and of the laws which regulate the constant relation between the degrees of recidivity, anaplasia, atypicality, and malignity, the author gives a very careful clinical, histogenetic, and anatomical study of the mixed tumours and the placentomata, which brings the volume to a close. The complex tumours are divided into acquired and congenital, and these last again into malignant and benign. The many doctrines and hypotheses current with regard to their histogenesis are discussed with great fairness and skill. The author's division is again an embryological one. He concludes from a critical examination of the whole question that the congenital complex neoplasms, both malignant and benign, can be explained by the blastomere theory of Bonnet and Marchand; that the acquired neoplasms which develop in the glandular organs and viscera (breast, parotid, submaxillary gland, uterus, brain, &c.) can be explained by the metaplastic theory; and, finally, that those complex neoplasms which start in the ovary and testicle (solid or cystic embryomata) are explainable histogenetically by his own ovo-spermoblastic theory, which rests on the work of Boveri, Carazzi, and Wilson on predetermined germinal localisation.

Although the author's researches have led him on broad lines towards the parasitic theory of the origin of cancer, the criticism throughout the book is of the best kind, impartial and unirritating, and he always keeps in mind the fact that we really know nothing certain on this vexed question, and he, at any rate, "dares stamp nothing false where he finds nothing sure." The book is well printed and well illustrated, and, apart from any particular views, is encyclopædic upon the subjects of "Inflammation and Cancer," which is its second title.

Lehrbuch der Kinderheilkunde. Edited by E. FEER, Director of the University Children's Clinic in Heidelberg. With 2 coloured plates and 160 illustrations. Jena: Gustav Fischer. 1911. Pp. 734. Price M.11.50, unbound.

THIS volume is practically a supplement—a very large one, it is true—to Krehl-Mering's Text-book of General Medicine. The contributors, each in his own particular domain, are all men who have made pædiatric history in Germany. The editor in his preface plaintively remarks that the branch of medicine covered by this volume has now attained to such a degree of specialisation that no one man can be expected to do justice to all its ramifications. It is quite certain that each of the 11 sections of which this work consists has been written by a master of his subject. It is almost surprising that, under such conditions, the bulk of the volume has been kept within the relatively modest compass of some 700 pages. Without qualification this statement perhaps hardly does justice to the moderation and restraint of the company of authors, for a page of a normal German scientific text-book is often an ocean of print. This book is, however, printed in large bold type, is well paragraphed, and freely illustrated, and hence, as has been

said, is a comparatively small book. There is little in the general arrangement of its contents to differentiate this volume from many others on the same subject which have been reviewed during the last few years in THE LANCET. There is, however, greater uniformity of method between one chapter and another than is usual in composite works.

Professor Pfaundler, who appears to have unlimited capacities for literary productiveness, is responsible for a very good chapter on certain constitutional and blood diseases. The sections on the inflammatory, or exudative, diathesis, the status thymico-lymphaticus, neuro-arthritism, Mongolian idiocy (Mongolismus), are certainly worthy of careful attention. The diseases of the respiratory system are ably dealt with by Professor von Pirquet; syphilis is dealt with by Professor Moro; while Professor Feer himself has contributed a number of admirable chapters. Chief among them is that on the acute infective diseases, which, by the way, includes acute polyarthritic rheumatism, the latter occupying some five pages. To this chapter one accessory page is attached which deals with chronic rheumatism—probably a somewhat disproportionate distribution of favours according to English ideas.

The chapter in this volume, however, which is likely to prove of greatest interest to English readers is that by Professor Finkelstein and his colleague Dr. Ludvig F. Meyer, on the diseases of the digestive organs. The part of this chapter, and it is much the largest part, which is concerned with disturbances of nutrition in infants is quite revolutionary in character and arrangement. As is well known, Professor Finkelstein attributes most of the troubles of infancy to food causes; and he discounts almost to the vanishing point the part played by bacteria in the production of gastro-intestinal troubles. Practically the same views have been maintained by English writers, but Professor Finkelstein has had almost unrivalled opportunities in Berlin for establishing by the clinical test the presumptive truth of many of his main theses. Many authors, in dealing with disturbances of digestion and nutrition in infants, separate these groups into independent disorders of the stomach, intestines, liver, pancreas, and so on, but not so Professor Finkelstein, who groups all the symptoms attributable to disturbances of digestion or nutrition under one heading. In so many words, he says the organism has a certain degree of tolerance for food—what we should call powers of physiological utilisation; when these are abused or over-reached we get certain reactions or disturbances which are similar in kind but different in degree, and according to the degree he classifies them as follows: 1. Mild disturbances of function: (*a*) dislocation of equilibrium (Bilanzstörung); (*b*) dyspepsia. 2. Severe forms with organic changes: (*a*) decomposition; (*b*) intoxication. The disturbance in its fourth degree of severity (intoxication) is practically the same as that which often passes under the somewhat unscientific name of marasmus or the more scientific name of athrepsia. So far as food is concerned Professor Finkelstein incriminates all elements—proteins, carbohydrates, fats, and even whey itself; but it is to some undetermined element in the latter that he holds chiefly responsible for the great majority of the troubles. His treatment is simplicity itself—the withholding of food, the giving of mild diffusible stimulants such as weak tea or broths, and the subsequent return to a modified milk diet in which the fat percentage is kept low and the carbohydrates are not exclusively of the milk-sugar variety.

Professor Feer's text-book can be commended to the notice of English readers. And but for the fact that there is already a plethora of modern works in English of almost equally high standard, we should expect to see an English translation.

A Laboratory Text-book of Embryology. By CHARLES SEDGWICK MINOT, LL.D., D.Sc., James Stillman Professor of Comparative Anatomy in the Harvard Medical School. Second edition, revised, with 262 illustrations, chiefly original. London: J. and A. Churchill. 1911. Pp. 402. Price 16*s.* net.

IT is easy to understand why this excellent work is dedicated to Henry Pickering Bowditch, who died only a short time ago. Bowditch was one of the pioneers of physiology in America, and was one of the early pupils of Ludwig in Leipsic. Minot was one of Bowditch's many pupils, and later he also began his physiological studies in Leipsic. On returning to Harvard Minot's bent soon showed itself, and his name is now inscribed large amongst embryologists who take a wide and comprehensive view of the importance and relations of this attractive subject. The work is designed primarily for the use of students taking a practical course in embryology and aims at directing the student's attention to actual original observations to be made by himself. This is the second edition, and it has been so extensively revised that it may be described as almost a new book.

The chapters are of very unequal length. The first one deals with general considerations, and it is impressed on the student that the embryo illustrates with particular clearness the fundamental principles of morphology. To a medical student embryology gives the clue to the intelligent comprehension of the anatomy of the adult, while it throws a vast light on pathology, the problems of malformation and monstrosities, and also upon the whole question of pathological changes in the tissues. In the first 30 pages a terse, vivid, and living description is given of such subjects as the segmented animals and metamerism, of the vertebrate type of structure with its six more important and six less important characteristics, and then each of these twelve is successively passed in review. This is followed by a rapid survey of the principal modifications of the vertebrate type, which brings us to the word "anlage," which has obviously come to stay, and which the author defines as "the first accumulation of cells in the developing embryo recognisable as the commencement of a structure, organ, or part." Then follows a short account or summary of such subjects as cytomorphosis, larval and embryonic types, germ layers, relations of surface to mass, and this leads to a study of projections, invaginations, and then to a classification of glands, the law of unequal growth, germ cells, sex, the theory of heredity, i.e., the theory of germinal continuity which we owe to Moritz Nussbaum—the only theory which to the author seems tenable at the present time. The chapter winds up with a short account of the law of recapitulation and the arrest of development.

The second chapter is necessarily a long one (p. 33–117) as it deals in detail with the early development of mammals, beginning with spermatozoa, ovulation, ovum and its maturation, impregnation, segmentation, and blastodermic vesicle—all of which is set forth much as in other books—and proceeding step by step to the formation of the layers and the origin of the mesoderm. Each part is then shortly described, beginning with the primitive axis, notochord, and its fate, archenteron, the digestive canal, the nervous system and the sense organs, the origin and destiny of somatopleure and splanchnopleure, and then the development of organs, finally ending with the allantois, trophoderm, umbilical cord, the chorion, and amnion. These two chapters occupy about one-third of the volume. About 30 pages (Chapter III.) are given to the human embryo. It is admitted that our knowledge of its early stages is very imperfect. As to classification of the early stages, 11 such stages are postulated, the last of these in embryos of about

10 mm. long. Each of these stages is then described in detail so far as they are known in certain of the primates, but more particularly in man. Some of the illustrations are taken from the well-known work of Coste. Embryos of various ages are carefully figured, drawn accurately to scale. Chapter IV. is short (pp. 160–173), and deals with the segmentation of the ovum and of the blastodermic vesicle in mammals. For laboratory work on this subject two animals especially have been studied—viz., white mice and rabbits. The work of Sobotta and of Kirkham on white mice forms the basis of our knowledge of these early stages in mammals. Careful details are given of the period of heat. In the mouse this occurs 21 days after littering. The ovum of the mouse measures only 80μ, and is the smallest known mammalian ovum. That of the cat measures 200 , of the rabbit 161 .

Chapter V. (pp. 174–218) is devoted to the classic subject "Young Chick Embryos." As in other text-books, details are given of how to obtain, to remove, and to preserve the embryos, and how to cut serial sections. The staining processes used are given more fully in the last chapter. Careful descriptions and excellent figures of chick embryos with from eight segments onwards are given with a great wealth of detail. The study of pig embryos occupies pp. 219–330, and is particularly full and painstaking. Pigs of 7·5 mm. are first selected for the study of outward form, and so on with those of greater age and length; then their general anatomy is described and copiously illustrated. Some of the illustrations are singularly artistic, while others represent wax reconstructions. Then follow elaborate studies of sections, serial and otherwise, of the embryo as a whole or of its individual parts. The largest pig embryo studied is 24 mm. The last chapter but one (pp 339–376) is devoted to the study of the uterus and the fœtal appendages of man. A wax reconstruction of a uterine gland of a virgin of 18 years gives an idea of the very great complexity of such glands—a fact hardly revealed by sections shown in the ordinary text-books. The last chapter is devoted to methods, much on the lines of those commonly found in text-books of histology.

The work is one that can only receive the highest commendation. Anyone who has worked through such a course as is here laid down, and, as we gather, is actually carried out in Harvard, will have received a training both in original observation and in technique such as but rarely falls to the lot of medical students in this country. It would be interesting to know what time is devoted to such a course. Professor Minot is to be congratulated most warmly on the success, efficiency, thoroughness, and stimulating character of his work.

Medical Revolution: A Plea for National Preservation of Health based upon the Natural Interpretation of Disease. By SYDNEY W. MACILWAINE, M.R.C.S. Eng., L.R.C.P. Lond. (retired). London: King and Son. 1911. Pp. 162. Price 2*s.* 6*d.* net.

THE author of this small book is satisfied that medicine is hampered by a false interpretation of disease, and he sets before us what he considers the only true gospel. He is, it would seem, a little doubtful of the salvation of his *confrères*, for he addresses himself primarily to the "intelligent layman," and his book is a sign of the times, as showing a general appreciation of the difficulties produced in the practice of medicine by the rapid developments of modern science. This, however, is not quite how the author would describe his own able reflections.

His argument falls into two parts—first, a destructive criticism of things as they are; second, a constructive account of things as they ought to be. The second part, however, comes first in the book and the first second, while towards the end the constructive side is brought forward again. The arrangement is less confusing than might be expected, and for the most part the author's views, though strong, are expressed with admirable restraint and moderation; though now and again, as when he puts up a specialist to hit at, or describes Virchow's part in the development of medicine, his masseters tighten in a way that hardly suggests the philosophic spirit. Briefly summarised, his thesis runs as follows: All diseases are the effects of natural causes; the causes fall within the study of medical science, the effects and their prevention within the art of medical practice. Every "true" disease is, by definition, a mental conception drawn from a number of cases showing determinate and similar causation. These true diseases are separated into two groups according to whether the cause lies in the patient's environment or is constitutional. But it is the habit of the present day, says the author, to jumble together several diseases in one, thus creating "spurious" diseases. He takes Bright's disease, for example, as an effect of several different causes (scarlet fever, influenza, gout, lead-poisoning). The symptoms are not of determinate and similar causation, and therefore when the medical man diagnoses Bright's disease he makes an illusory diagnosis, preventive measures become impossible, and medicine is defrauded of its legitimate aim.

So far we can accompany the author. It is true that some of our "diseases" are only groups of symptoms. We are working to remove this reproach. But when he comes to explain why we of the medical profession are illusory diagnosers of spurious diseases he shows a bias that makes it difficult to go forward with him. Morbid anatomy, according to the author, has been the profession's undoing, and Virchow is the evil spirit who enmeshed it. According to the author, when Virchow exposed the ancient sham of humoral pathology he set in its place the equally fallacious doctrine of cellular pathology based on the dogma, "Every chronic disease is rooted in an organ." And Mr. Macilwaine feels so strongly against morbid anatomy that he will see nothing good in it at all. He tells his readers that outside the narrow circle of orthodox "pure physicians" Virchow's pathology is as completely ignored as the humoral pathology, and that the pathologist of to-day uses it merely to cloak his ignorance. Virchow's dogma, he holds, has no foundation in fact, and is not one whit less artificial than the ancient humoral pathology. Locomotor ataxy, for instance, is not a disease, inasmuch as its lesions can be produced by different toxic agents; fatty degeneration of the heart and myxœdema the same. These and many others for Mr. Macilwaine are spurious diseases, and Virchow "could not have done a greater disservice to medicine" than in setting up morbid anatomy as its guiding science. The statements as to the illogicality of our nomenclature of diseases are sound, but to assail morbid anatomy in the terms which the author employs, to see nothing good that has come out of it, to deny it a leg to stand on, bespeaks either a biassed mind or imperfect knowledge. How far does morbid anatomy deserve these strictures? Had it done nothing more than establish the facts that one of the effects of the tabetic toxins is to be found in the posterior columns of the cord, that fatty degeneration of the heart does exist and often goes with phosphorus poisoning, and that atrophy of the thyroid gland is associated with myxœdema, it would have earned the gratitude of the medical profession. As a matter of fact, from the apparently barren subject of post-mortem observation was generated, in due time and in large measure, the science of bacteriology and parasitology, which has boundlessly increased our knowledge of causation and our practice of prevention.

The author, we consider, has taken up an untenable position, even while he makes out an interesting case for his system of reform and is able to apply it in a practical way. Few who read this book will go back to their patients without feeling that their mental attitude towards disease has undergone some change, and for this reason we thank Mr Macilwaine for the courage and industry which have led him to write his book. We also endorse very heartily the view that the prevention of medicine would be well served by more regular and anxious inquiry into the heredity and environment of our patients than the present conditions of medical practice permit.

Tumours, Innocent and Malignant: their Clinical Characters and Appropriate Treatment. By J. BLAND-SUTTON, F.R.C.S. Eng., Surgeon to, and Member of the Cancer Investigation Committee of, the Middlesex Hospital. With 360 illustrations. Fifth edition. London, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1911. Pp. 686. Price 21*s.* net.

FROM its first appearance Bland-Sutton's "Tumours" was accorded a place amongst the highest of the works on new growths, whether in English or in any other language, and that position has been fully maintained with every subsequent issue of the work. We have read it in different stages of its development, and, as our readers know, have consistently found it good. For two things this book is chiefly noticeable—the originality of the treatment of the subject, and the wealth of illustration derived from cases of neoplasms, not only in human beings, but also in the lower animals. No one can even glance through this volume without being struck with these characteristics. One other point deserves mention. The carefully chosen bibliography which follows every chapter is remarkable not so much for the number of the references as for their rigid selection. The etiology of carcinoma is discussed in a very critical but judicious manner, and we are interested to see that the author is inclined to believe that malignant disease is due to "a micro-parasite which stimulates the normal cells to multiply and produce cancer." There are still many debatable points in connexion with tumours, and there is room yet for two opinions on many of these; and though we may differ from the author on some of these, all will allow that this work is a trustworthy treatise for the student and a monument of British pathology.

Traité Pratique de Pathologie Exotique, Clinique et Thérapeutique. Publié en Fascicules sous la Direction de MM. CH. GRALL et A. CLARAC, Médecins Inspecteurs des Troupes Coloniales. Vol. V.: Intoxications et Empoisonnements; Béribéri. Par MM. HÉBRARD, GAIDE, CLARAC, LASNET, BOYÉ. Avec 124 figures. Paris: J. B. Baillière et Fils. 1911. Pp. 452. Price, paper, 12 fr.; boards, 13.50 fr.

THIS, the fifth volume of the above treatise, opens with the subject of beri-beri. This disease, concerning the etiology of which there have been so many varied hypotheses offered, is a notable one, inasmuch as it affects so adversely the efforts at colonisation of the European immigrants into tropical climates. Originally of Asiatic origin, it has successively invaded various tropical regions, and now to-day it is found to influence generally the colonisation of warm countries by Europeans. Dr. Hébrard, the author of the article, first tells us of its origin and diffusion. The original birthplace of the disease was in Asia, where it appeared in China, Japan, Indo-China, Burma, India, and the Malay Peninsula. The disease ravaged the Japanese army in the late Russo-Japanese war. More recently it has attacked New Caledonia; then Senegal, the Belgian Congo, and other places in Africa; next we find Brazil, Guiana, and the Antilles attacked; so that it affects a large portion of the intertropical globe. The author makes four classes of the affection—the acute, the subacute, the incomplete, and the chronic. The clinical characteristics of these various manifestations are succinctly and clearly portrayed, first as a whole for each of the classes, and they are then individually analysed. In the differential diagnosis the distinction from Bright's disease, chronic alcoholism, ankylostomiasis, rheumatism, malarial cachexia, tabes, the Aran-Duchenne type of progressive muscular atrophy, the toxic polyneuritis of arsenical poisoning and diphtheria, and lastly, epidemic dropsy, is detailed. The author, with regard to the last-named disease, however, does not mention the researches of Bentley, which certainly tend to prove its identity with beri-beri. The pathological anatomy is given, and then its rate of mortality. This in some epidemics has been as high as 85 per cent.

The etiology is next discussed. The author at once gives his opinion that the subjects of the malady are those people who eat rice as the basis of their food-supply. He then proceeds to show that white rice is the culpable agent. This rice, being decorticated, is exposed in a greater degree to contamination; whereas the red rice, not having lost its cortex, offers greater resistance to any pathogenic microbe, and has less chance of becoming contaminated. All this has been made very familiar to readers of THE LANCET, mainly by the excellent work of Dr. Henry Fraser and Dr. A. T. Stanton. But the French authors consider that white rice alone will not produce the malady. In Asia, for instance, the great majority of rice eaters are immune to this disease. Hence there must be some other factor apart from the quality of the rice, and the author opines finally that this food acts as the vehicle most favoured by the pathogenic agent, which is a toxin of some sort. But the actual microbe responsible for this toxin has not yet been indubitably shown. The article concludes with the treatment of beri-beri. As regards prophylaxis, the introduction of the infectious agent must be avoided, by attention especially to the quality of the rice, and by making all the environment of the *personnel* as sanitary as possible.

Amongst the other articles included in this volume are those concerning opium poisoning, by Dr. Gaide; hashish poisoning and poisoning due to fish and snakes, by Dr. Clarac, who also writes on the effects of quinine on certain individuals. The volume fully comes up to the reputation established by its predecessors.

Carbonic Acid Snow as a Therapeutic Agent in the Treatment of Diseases of the Skin. By R. CRANSTON LOW, M.B. Edin., F.R.C.P. Edin., Assistant Physician to the Skin Department, Royal Infirmary, Edinburgh. London and Edinburgh: William Green and Sons. 1911. Pp. 117. Price 5*s.* net.

ALTHOUGH the employment of carbon dioxide snow is comparatively recent, it is now widely used, and with great success, in a large number of cutaneous conditions. Many articles have appeared describing the uses and the results obtained by the use of carbon dioxide snow, but this is, we believe, the first book dealing wholly with this method of treatment. When liquid carbon dioxide is allowed to evaporate rapidly some of it becomes solidified by the rapid abstraction of heat, and this solid carbon dioxide has a temperature equal to − 79° C., so that if applied firmly to the skin immediate freezing of the tissues results. For turning the liquid into the solid carbon dioxide many forms of apparatus are made, most of which are convenient, but they are not essential, for a piece of wash-leather or even a towel is quite sufficient. In this work several forms of apparatus are described and their merits are compared. Then the effects

of the snow on the skin and the effect of varying the duration are referred to. A chapter is devoted to the microscopic changes induced, and some illustrations show the alterations that the tissues undergo. The therapeutic uses of the snow form the most important part of the subject, and Dr. Low speaks with a reasonable enthusiasm of the results obtained.

Bericht über die Ergebnisse der Konjunktivalreaktion mit Tuberkulin, sowie über die lokalen Tuberkulinreaktionen bei Tieren, speziell beim Rinde. (*Report on the Results of the Conjunctival Reaction with Tuberculin, especially the Local Tuberculin Reaction in Cattle.*) Von Dr. A. WOLFF-EISNER. Jena: Gustav Fischer. 1911. Pp. 49. Price M.1.20.

Dr. Wolff-Eisner's name is now well known in relation to the methods for the diagnosis of tuberculosis. The conjunctival reaction is more closely associated in England with the name of Dr. Calmette, although Dr. Wolff-Eisner must be accorded the priority of one month in publishing the method. Some discredit has fallen upon it as applied to man owing to results that have occasionally attended its use, and to the frequency with which a positive result is obtained in apparently non-tuberculous subjects. Dr. Wolff-Eisner in this paper fights strenuously for the retention of the test, more particularly in the domain of hygiene, for the diagnosis of tuberculosis in cattle. Writing of the conjunctival reaction in man, he states that whilst in healthy persons over 20 years of age the cutaneous reaction is positive in 50–80 per cent. of cases, only 5–10 per cent. show a positive result with the conjunctival reaction. Moreover, a considerable number of the latter cases show signs of tuberculosis in the course of one or two years. If both reactions are positive, active tuberculosis is present. If only the cutaneous reaction is positive the tuberculous affection is relatively inactive.

The paper is concerned principally with a research on the value into the conjunctival reaction in oxen. A 40–50 per cent. tuberculin is used in place of the 1–4 per cent. solution used in man, and the experimental results tabulated in the paper show the high value which is to be attached to the reaction as a means of eliminating tuberculous cattle which might otherwise be used for food.

Theory and Practice of Thyroid Therapy. By HERBERT EWAN WALLER, M.R.C.S.Eng., L.R.C.P. Lond., Honorary Anæsthetist, Birmingham Dental Hospital; Medical Officer, Balsall Heath Provident Dispensary. London: John Bale, Sons, and Danielsson. Pp. 154. Price 5*s*.

Mr. Waller first discusses the function of the thyroid gland, which enables the body to make use of calcium salts. He applies this principle to various conditions. He is of opinion that rickets in its worst form, starting as it does in the earliest months of life, is primarily caused by depriving the infant of the benefit of maternal thyroid activity, the infant's own thyroid secretion being invariably unequal to its requirements at birth. He supports this view with the statement that "the protective influence of breast-feeding against rickets has been placed beyond dispute." He applies the same arguments to dental caries, and maintains that this condition also is largely due to artificial feeding, the infant being thereby deprived of the benefits of maternal thyroid activity. Thyroid insufficiency, he points out, may be brought about in another way—namely, by the deprivation of calcium salts. Mr. Waller believes that calcium salts are the normal stimulus to thyroid metabolism, and without this stimulus secretion may become deficient. He considers that this fact explains the beneficial action of lime salts as a remedy in deficient nutrition. Considerable space is devoted to a consideration of the relation of iodine and arsenic to the thyroid activity. The reasoning adopted in these matters is rather involved and difficult to follow, and the conclusions arrived at are vague. Nevertheless, the subject would seem to be a promising one for investigation, and doubtless Mr. Waller has done good service in drawing prominent attention to it.

The whole book is certainly worthy of perusal. Mr. Waller has employed thyroid medication in a variety of conditions, and his remarks are suggestive. Inquiry founded on the lines which he has followed may lead to valuable results: more cannot yet be said.

Les Maladies de la Cinquantaine (*Diseases of the Fifties*). Tome I., L'Artériosclérose; Tome II., Clinique du Cœur; Tome III., Le Diabète; Tome IV., Les Albuminuries. Par Dr. ARTHUR LECLERCQ, Lauréat de l'Académie de Médecine. Paris: Octave Doin et Fils. 1908–1911. Vol. I., pp. 335; Vol. II., pp. 357; Vol. III., pp. 438; Vol. IV., pp. 264. Price, Vol. I., II., and III., 6 fr. per volume; Vol. IV., 5 fr.

DURING the decade of life comprised by the "fifties" degenerative processes, metabolic disturbances, and cardiovascular changes are liable to become manifest, particularly in those in whom hereditary tendencies have been helped by strain, toxic conditions, dietetic errors, and misuse of alcohol. Most of these conditions are insidious in their origin, slow and progressive in course, and too often come for treatment when advanced and irreparable. The hygiene and management of this period of life are therefore important, and the recognition of early stages of these conditions may be the means of prolonging life and of delaying or avoiding the usual sequels. Dr. Arthur Leclercq has subjected the more important of these diseases to a careful and exhaustive analysis, and has reviewed their causation, pathogenesis, and treatment in the four volumes before us. His views as to their essential nature and development are somewhat original and are given at considerable length and with no little repetition. His theories are interesting, but require confirmation. His observations on treatment are full and helpful, as he discusses the various procedures and drugs which have been recommended.

The first volume is devoted to arterio-sclerosis. This condition is regarded as a reaction on the part of the arterial system to visceral changes, particularly in the liver and kidneys. The liver, as a consequence of disturbed metabolism induced by alimentary errors and by abuse of alcohol, is first stimulated to an excessive activity of its functions—a condition followed by a diminution preparing the way for the so-called arthritic manifestations, such as gout, gravel, obesity, and diabetes. These are regarded as defensive mechanisms rather than as morbid states, their object being to protect the organism from waste products which would lead to sclerosis of the organs. Dr. Leclercq would therefore replace the term arthritism, so dear to French writers, by hepatism. Other organs, notably the kidneys, share in the sequence of hyperfunction and diminished function. The diminished activity is in all cases associated with degeneration of the parenchyma and sclerosis of the supporting tissue. In the case of the kidney, these changes react upon the blood-vessels, which in turn show hyperfunction and then degeneration with fibrosis, constituting the condition of arterio-sclerosis. Other conditions simulating this state of the vessels—e.g., the sequels of infective arteritis from any cause such as syphilis—are differentiated as false or atypical arterio-sclerosis. True arterio-sclerosis is thus regarded as a viscero-arterio-sclerosis, its only cause being "hepatism," its only origin alimentary errors, its only adjuvant alcohol.

The second volume deals with diseases of the heart, classified according to the disturbance of rhythm produced.

The rhythms are described as eusystole, comprising the normal; dyssystole and asystole, the abnormal ones found in disease. These conditions are subdivided into various groups and examined in detail. The pathological relations, clinical characters, and treatment of each one are discussed. The classification is so minute as to be tedious and confusing.

The third volume, which has been "crowned" by the Academy of Medicine with the Alvarenga prize, is devoted to diabetes and exophthalmic goitre. These two diseases are regarded by Dr. Leclercq as strictly analogous in nature and pathogeny. They are described as being the result of a primary "dysfunction," followed by dystrophy of the entire organism, and especially of the nervous and neuro-glandular systems. The primary defect is regarded as occurring in the bulbar region, and diabetes is considered as a disturbance of the functional interrelations of the liver with other glands, notably the pancreas and thyroid; exophthalmic goitre as an alteration of the synergic action of the thyroid gland with other structures—viz., the ovary, hypophysis, and suprarenal. These highly speculative and theoretical views are developed at considerable length and are applied to considerations of treatment as well as of pathogeny.

The fourth volume contains an analysis of the various conditions giving rise to albuminuria, and is not restricted to a consideration of those occurring during the fifth decade. Here, again, the classification is a very minute one, and Dr. Leclercq's own views are given in regard to some forms of nephritis and to uræmia. Considerations of treatment are fully discussed and in a practical manner.

Modern Methods of Water Purification. By JOHN DON, F.I.C., A.M.I.Mech.E., and JOHN CHISHOLM, A.M.I. Mech.E. London: Edward Arnold. 1911. Pp. 368. Price 15*s.* net.

THIS work is a valuable addition to the literature of the important subject of water purification. The authors have made a punctilious study of the different methods of water purification adopted in this country, in America, and in various continental countries, and these methods are carefully criticised. A concise and complete bibliography of books and papers on water purification is given in a useful appendix.

A feature of this work is that the subject is treated not solely from the public health aspect, but that special attention is paid to the engineering aspect of the subject. A chapter is devoted to sources of water-supply and another to the storage of water, wherein full consideration is given to the important work done by Dr. A. C. Houston in this respect. The use of copper sulphate in restricting the growth of algæ in stored water is fully dealt with. Sand filtration and the scientific explanations of this important part of water purification are gone into in great detail. The information as to the management of sand filters will be of great value and assistance to the water engineer. A special chapter deals with the purification of water by ozone, and gives the details of the process. Mention is made of the process of the sterilisation of water by means of ultra-violet light.

The various processes of water softening and the apparatus necessary for this procedure are carefully and fully described. "The Testing of Water" occupies two chapters and the conclusions to be arrived at from the results of analyses are set out. A short account of the bacteriological examination of water is given, but we think that this method of investigation must always be left in the hands of a competent bacteriologist. The water engineer should not attempt any detailed examination of the bacteria present in drinking water, since the investigations necessary can be satisfactorily carried out only by an expert.

Everyone faced with the problems of water engineering should possess this valuable contribution to the subject, and the book should also prove of great value to the analyst and the sanitarian, who have to consider the important subject of water-supply.

Thérapeutique des Maladies Respiratoires et de la Tuberculose Pulmonaire. By Drs. E. HIRTZ, RIST, RIBADEAU-DUMAS, TUFFIER, J. MARTIN, and KUSS. Paris: J. B. Baillière et Fils. 1911. Pp. 713. Price F.14.

THIS volume forms the third number of the *Bibliothèque de Thérapeutique*. The first article is by Dr. E. Hirtz, physician to the Necker Hospital, on the treatment of broncho-pulmonary affections. He describes at length the treatment of bronchitis, broncho-pneumonia, bronchiectasis, emphysema, asthma, pneumonia, and other diseases of the lungs. The directions given are clear and concise, and numerous prescriptions are suggested which will be found of value in actual practice.

The treatment of diseases of the pleura is discussed by Dr. Rist and Dr. S. Ribadeau-Dumas. The operation for thoracentesis is minutely described, and especial attention is drawn to the indications for, and the technique of, injections into the pleura of sterilised gas or air. This procedure is suggested in those cases of pleural effusion in which the fluid rapidly recurs; the results are stated to be encouraging, but further experience is necessary before a definite conclusion can be arrived at. With the aid of numerous illustrations Dr. Tuffier and Dr. Martin describe the surgical treatment of affections of the respiratory organs, including tracheotomy, intubation, pneumotomy, and pneumectomy.

More than half the volume is occupied with a consideration of the treatment of tuberculosis, the article having been written by Dr. J. Kuss, physician to the Sanatorium at Agincourt. His remarks are characterised by the completeness and lucidity with which he describes the various therapeutic measures that have been introduced. He describes in detail the "open-air" treatment, and comments favourably on the usefulness of tuberculin if carried out with due precautions, but deprecates its use in inexperienced hands. He also refers to the artificial production of pneumothorax, and comes to the conclusion that in those cases in which extensive adhesions do not exist favourable results may be obtained.

We can speak in high terms of praise of this volume as being an excellent practical manual on the treatment of diseases of the lungs and pleura.

LIBRARY TABLE.

An Introduction to Experimental Psychology. (Cambridge Manuals of Science and Literature.) By CHARLES S. MYERS, M.D., Sc.D. Cantab., Lecturer in Experimental Psychology in the University of Cambridge. Cambridge: At the University Press. 1911. Pp. 156. Price 1*s.* net.—These little Manuals of Science are likely to fulfil a very useful purpose in the hands of those who use them in the right way. They are in no sense text-books, not even elementary ones, let alone "crams." They are intended to place before readers of ordinary intelligence and education, in terms that can be easily understood, a presentment of recent discoveries. The present volume aims to explain the methods of experimental psychology by describing typical themes of research therein, the subjects selected being touch, temperature and pain, colour vision, the Müller-Lyon illusion, experimenta æsthetics, memory, mental tests and their uses. This volume contains, by permission of Professor Ewald Hering and his

publishers, the instructive coloured diagrams representing the series of colour sensations, as given in the former's Grundzüge der Lehre vom Lichtsinn. The measurement of mental processes may arouse wonder even in those to whom scientific measurement of more concrete things is an ordinary task. Measurement is the first element of exactitude in most scientific studies, and its application to so elusive a subject as psychology is explained to the general reader in this little book.

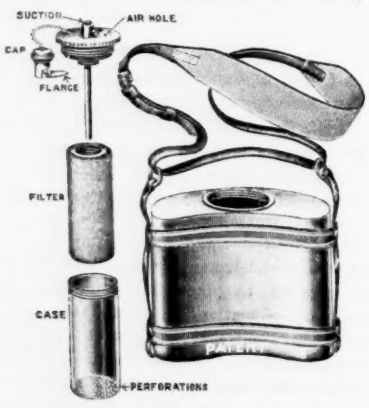
Queer Patients. By M. OSTON, M.D. Edinburgh: John Currie. Pp. 324. Price 3*s.* 6*d.* net.—This book contains 15 stories based on the more unusual incidents that have come in the author's way during his professional career. It is in a sense medical fiction, for while the main incidents, it is said, are all true, the circumstances and supposed personalities are fictitious. Some of the stories suggest valuable lessons to the practitioner, as, for instance, "A Mere Detail," in which an impending breach between husband and wife, owing to the latter's increasing irritability, is warded off through adopting the doctor's advice to change the wall paper in the dining room. "Lady Russel's Necklace" is a good, and by no means impossible, story. "The Letter D" is another good story illustrating the psycho-analytic method. We naturally referred to the Medical Register to see if Oston was the author's real name, but it is evidently an anagram. The book is decidedly readable.

Transactions of the Annual Conference of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis at Caxton Hall, Westminster, July 19th-21st, 1911. London: Adlard and Son. 1911. Pp. 220. Price 2*s.* 6*d.* net.—The proceedings of this conference were reported in abstract in THE LANCET of July 29th, 1911. Those especially interested in the subject will do well to obtain the Transactions, in which all the papers read are reported at length.

New Inventions.

THE HAMILTON COMBINED CANTEEN AND FILTER.

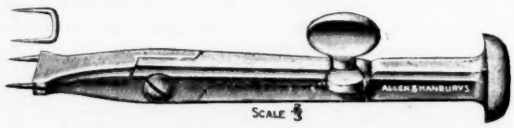
THE illustration below shows the component parts of this well-thought-out arrangement, which provides the soldier with a store of water ready at hand and fit to drink. The canteen is a small curve-shaped cistern, in which is suspended a protected case enclosing a germ-proof filtering cylinder.



All parts are easily detachable and therefore cleaned, while the efficiency of the filtering material can be ensured by mechanical cleaning and by placing it in boiling water when that is available. An important feature consists in the provision made for drawing the water by suction. The soldier does not drink from it by tipping the apparatus to his lips as from an ordinary drinking utensil, but by drawing the water from a nipple at the top by suction. An air hole is provided by means of which air replaces the water withdrawn. There is thus nothing lost by spilling, and the canteen enables the soldier to drink in any position. Prone on the ground he does not need to raise his head. He is prevented from gulping the water, which is a source of danger in some circumstances; he must imbibe it at a moderate rate. Water filters through on its own account, but the flow of filtered water is, of course, increased by suction, which places a pressure upon the water in the canteen. The filter canteen is very light, the container being made of aluminium. It can easily be filled from any source, and the filtering medium is stated under severe bacteriological tests to be a barrier to disease organisms. We understand that the Hamilton combined canteen and filter may be obtained at the leading stores in London. There is also made a combined canvas water-bag and filter which are intended to allow as much extra water to be carried as possible. They are adapted to be carried round the necks of horses or camels, and appear to be made with due regard to the comfort and convenience of the carrier.

A COMBINED STAPLE HOLDER AND PUNCH.

IN performing Roux's operation for femoral hernia it is found that the staple cannot be easily controlled and fixed in position before being driven home. This is particularly noticeable in stout patients with a patulous femoral ring. The clamp punch here depicted renders the staple perfectly



manageable during the process of pinning the ligament and is then used as a punch, being removed when the staple has been driven home. The illustration clearly shows the detail of the instrument, which was made for me by Messrs. Allen and Hanburys, Limited, of 48, Wigmore-street, London, W.

C. M. PAGE, M.S. Lond., F.R.C.S. Eng.
St. Thomas's Hospital, S.E.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Thomas Dwight, professor of anatomy in Harvard University.—Dr. H. C. Lutz, professor agrégé in the University of Paris.—Dr. Ostino, *privat-docent* of Laryngology and Otology in Turin.—Dr. Grandeau, professor of agriculture in the Conservatoire of Arts and Trades, Paris.—Dr. W. C. Phelps, professor of surgical anatomy in the Buffalo University.

LITERARY INTELLIGENCE.—The following new editions of well-known text-books are announced for publication by Messrs. Churchill:—"A Manual of Midwifery," by T. W. Eden, M.D., obstetric physician, Charing Cross Hospital. This book, in its third edition, has been thoroughly revised, 150 pages have been added to the text, and there are 60 new illustrations. "A Manual of Bacteriology," by R. Tanner Hewlett, M.D, professor of general pathology and bacteriology, King's College, London. This is the fourth edition of an admirable book for students. "A Handbook of Physics and Chemistry," by Herbert E. Corbin, B.Sc. Lond., and Archibald M. Stewart, B.Sc. Lond., headmaster of Alresford Grammar School. This also is a fourth edition, and now covers completely the extended syllabus of work required for the first examination of the Royal Colleges. "Quantitative Chemical Analysis, adapted for Use in the Laboratories of Colleges and Schools," by Frank Clowes, D.Sc. Lond., emeritus professor of chemistry in the University College, Nottingham, and J. Bernard Coleman, A.R.C. Sc. Dubl., head of the chemical department in the South-Western Polytechnic, Chelsea. This excellent book is now in its ninth edition.

THE LANCET.

LONDON: SATURDAY, OCTOBER 7, 1911.

The Medical Lord Mayor of London.

THE election of a medical man to the office of Chief Magistrate of the City of London is an event of considerable importance, as well as a proper source of gratification to the members of the new Lord Mayor's profession. It is fitting that the largest capital in the world, and the most wholesome, should have as its chief civic representative a member of that profession which has contributed so largely to its sanitary excellence, and consequently to its prosperity. If the way to be healthy, wealthy, and wise is not quite so simple as the words of the old jingle would have us believe, neither is that way so very complicated: it consists in studying the needful laws of life, and, having studied them, in sparing no reasonable expense to make the conduct of life possible according to those laws. This has been the spirit of our metropolitan administration now for many years, and we find in the appointment of a medical man to represent and to supervise the civic interests of the very heart of London an endorsement of that spirit.

Sir THOMAS CROSBY, who was elected Lord Mayor of London by the Liverymen of the City on Michaelmas Day, will enjoy the honour not only of being the first medical man who has occupied the chair, but also of being the oldest candidate for the position who has ever been elected. Born in Lincolnshire in 1830 he was educated at University College School and afterwards at University College, London, and subsequently became a student at St. Thomas's Hospital where he was later demonstrator of anatomy, and where he also enjoyed the advantage of having for one of his tutors the late Sir JOHN SIMON, the father of sanitary reform. After obtaining the Licentiateship of the Society of Apothecaries and the Membership of the Royal College of Surgeons of England in 1852 he commenced practice in the City; in 1860 he took the Fellowship of the College by examination, and in 1862 he graduated as Doctor of Medicine at the University of St. Andrews. His connexion with municipal affairs dates back to 1877. In that year he was elected a Common Councillor of the City of London, being Alderman for the Langbourne Ward. Thirty years later he served as Sheriff, and now despite his eight decades he becomes Chief Magistrate. The historical and professional ties between medicine and the City of London, to which this appointment forms a striking addition, are already close. The Royal College of Physicians of London, which dates from 1518, and whose foundation was purely medical from the beginning, for many years had its habitation under the shadow of St. Paul's. The Royal College of Surgeons of England grew out of letters-patent granted by EDWARD IV. to the "Freemen of the Mystery of Barbers of the City of London using the Mystery or Faculty of Surgery." The Society of Apothecaries of London, incorporated in 1617, is a City Livery Company, granting a registrable medical qualification. Many Lord Mayors of London by their vigorous advocacy of the Metropolitan Hospital Sunday Fund have advanced the cause of order in benevolence, which medical men know is so badly needed in medical charities. Many Mansion House Funds, again, have had their origin in catastrophes whose terror and tragedy have been largely medical. Again, to turn abruptly from grave to gay, the hospitality of the Mansion House to the medical profession has been conspicuously shown on such occasions as the dinner given by Sir WILLIAM MACARTHUR to the Seventh International Medical Congress which met in London under the presidency of Sir JAMES PAGET, and the dinner given by Sir HORATIO DAVIES "to meet the President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, and other members of the medical profession."

The election of Sir THOMAS CROSBY to be Lord Mayor of London has, however, a broader lesson than any that is conveyed by remembering the association of the City with the profession of medicine. In all directions our calling has enlarged its boundaries, and in all directions it is seeking further to enlarge them. The presence of medical men in responsible municipal positions is a proof that this fact is obtaining public recognition, and this recognition will just now be most valuable to the public. Take one example only. The medical work of the Local Government Board, enormous as it is, is the growth of comparatively few years and assuredly will develop at an even greater rate than it has hitherto developed. But this sturdiness of growth, this irresistible tendency to annexation, has not been, and will not be, regarded complacently by all. Every extension of the work of State medicine means an invasion of provinces where private or, at any rate, non-sanitary interests have previously been paramount. Therefore, every extension is and must be regarded by certain sections of the population as an act of raiding, and may as a consequence provoke at the time a spirit of opposition to those entrusted with the duty of carrying it out. It is an invaluable thing that a medical man should have a voice in municipal counsels so that he may be present to explain sanitary proposals and remove from the public mind any apprehensions that they have been made for other than public purposes. The election of Sir THOMAS CROSBY as Lord Mayor of London emphasises in the most conspicuous manner possible the worth of medical counsel to a community.

Inter-Racial Problems.

WHILE not wishing to cavil at any of the soaring aspirations which have been set down as the objective of the first Universal Races Congress, nor to dispute the obvious good intention of a movement in support of which so many notable names have been enrolled, we feel bound to draw attention to certain dangers which we think have been passed over too lightly by speakers at that Congress, who dealt more especially with the sociological aspect of the racial question. This can be done conveniently now that

we have before us a report of the proceedings.[1] With the general objects of the Congress—viz., "a desire for a fuller understanding, the most friendly feelings, and a heartier coöperation between the white and coloured races of mankind"—we are in complete accord. Such a movement should bring credit to its originators. And it is no doubt doing them the barest justice to say that the advocates of this universal *rapprochement* between the nations are animated by a pure spirit of human benevolence. That the first congress of the kind should be held in London may be a coincidence, but it is quite in keeping with the view that the problems of racial intermixture fall finally to the Anglo-Saxon for solution. If there is one Power whose whole future is bound up in such solution it is ourselves. And because the interests at stake are so tremendous we must, in a political sense, walk warily, not sacrificing eternally to expediency, but certainly not following brightly imaginative ideals without due circumspection. Living in the future is often enough a harmless and an enjoyable form of recreation, but it is only a dweller in a fool's paradise who could suppose that mankind, of whatever race or colour, is ripe for changes so momentous as some of the speakers at the congress have been moved to suggest. We need not dwell on the probable political and economic effects on our modern civilisation of some of the proposals set out in this report; it is enough to refer only to the sociological side of the question.

Racial prejudice has existed always; the first dawn of civilisation saw its birth, and in many cases it has developed alongside of that civilisation as part and parcel of it. The attempt to preserve racial purity is natural and instinctive, and whatever may be said to the contrary by those who blindly advocate the total removal of those barriers, and who suggest cross-breeding as a means of solving the problem of racial antagonism, such an action, we affirm, would precipitate social disasters. It is true that the speakers at the Universal Races Congress, who dealt with the sociological side of inter-racial problems, did not, we believe, go so far as expressly to advocate indiscriminate miscegenation in support of their ideals, but some of the arguments brought forward do so, at least by implication. What is proposed is, in effect, that the black and yellow races of mankind should mingle with the white races under a universal charter of social, political, and economic equality. Whatever the future may have in store for us in this world the time for such a commingling has not yet arrived. The instinctive dread of the consequences of racial assimilation, which has made in the Western States of America miscegenation a worse offence than manslaughter, is founded upon sound political reasoning, however sad and terrible some of its immediate consequences may be. The same instinct has compelled our colonies to raise a barrier against the inflow of coloured races on their shores. White inhabitants fear that they will be engulfed in a torrent of alien humanity, while the hope that the stronger race with its higher ideals may raise such immigrants, by education, example, and law, to be fit subjects for miscegenation is felt not to take into consideration existing conditions. The hope is pious, not practical.

[1] Inter-Racial Problems. Edited by G. Spiller. London: P. S. King and Son. Pp. xlvi. + 485. Price 7s. 6d. net.

There is a field for national and racial coöperation, in which no bounds are fixed, where no racial antipathies need enter, where inter-ethnic relations of the most intimate kind may exist, and where the "better understanding" and "friendly feelings" so properly desired by the promoters of the Universal Races Congress may have full scope. Science is rapidly becoming the great healer of national and racial discord, for it knows no colour barriers, and no distinction of language or religion. It is, in a word, universal, and its beneficial discoveries have become the common heritage of mankind. No department of science has perhaps contributed so largely to this humanising process as the science of medicine. The history of medicine from the time of HIPPOCRATES shows that it has always borne a foremost part in the general diffusion of knowledge and the better understanding of nations. Scientific medicine has been a true international missionary. The discovery by KITASATO of the bacillus pestis is as well known and appreciated as the work of LISTER or KOCH. The common aim of all medical research, in whatever part of the world carried on, is disinterested inquiry into the laws that govern health and disease, so as by their better understanding to lessen the sufferings of humanity. It cannot be denied that this must prove a powerful factor in bridging the gulf of race, and every fresh discovery in the field of medicine fortifies the growth of that comity of nations and races which the members of the Universal Races Congress so eagerly await. In every branch of scientific medicine there is now an international congress, and apart from the contributions to medical science it would be difficult to over-estimate the value of these cosmopolitan gatherings in the removal of national and racial prejudices. We are in complete accord with the ideals which the Universal Races Congress would endeavour to promote, but until mankind shall have developed more the attributes of Deity we cannot believe that so close a bond of brotherhood as racial admixture would be other than provocative of disaster. To help the evolution of the peoples towards such an end is an admirable ideal for all scientific men, for the world will be a finer place when it is ready for such fusion of its various populations; but to press now for miscegenation is premature, and likely to obscure for serious persons the value underlying the purposes of those who promoted the first Universal Races Congress.

Women and Medical Research.

THE Introductory Address delivered on Monday last at the London School of Medicine for Women by Sir HENRY BUTLIN, the President of the Royal College of Surgeons of England, will attract the notice of all who are interested in medical research and in the future of medical education for women, two subjects which may be regarded as one to this extent, that the capacity for research, whatever its object, must usually be the finest development of education, whatever the sex of the worker. Sir HENRY BUTLIN'S words are always eloquent and to the point; nor does he flatter when criticism is called for. In his address he briefly surveys the field of medical research by way of preface to remarks on the fitness of women to labour therein. He compares and contrasts the two methods of research—the

method by observation and the method by experiment, and that the former is nowadays out of fashion, at least in medicine, seems to us to be a matter for regret. Experiment, of course, is more attractive to modern minds, impatient of interruptions and delay, but with all its rapid and striking results it is a two-edged weapon, and it cannot take the place of accurate and patient clinical observation. Its value as an accessory to the fruits of bedside labour is enormous. There is, in short, room for both methods; some problems are best suited to one, some to the other, and those who would approach all questions exclusively from one direction must in a short time appreciate their ill equipment. In the case of cancer research, for example, as Sir HENRY BUTLIN clearly shows, each method supplements the other and neither can replace the other. In view of modern tendencies this, we think, should be pointed out, while the restriction of research to such procedures as those which at first sight have an immediate utilitarian object is clearly impossible. Here we would quote the admirable words of Professor F. GOTCH, which, although spoken some years ago on scientific investigations in general, may well be applied to medical research in particular. He said that the scientific method demands of the worker "that he should deem no natural phenomenon too insignificant or too ignoble for investigation, that he should grudge neither time nor labour in making and repeating observations and experiments, that he should have the fear of error constantly before him, and that he should be unaffected by any consideration as to the immediate practical utility of his work." It is, of course, a fact that the man who works solely for an object so cramps his scope that, when the longed-for object is really attainable, he may not recognise his own success.

Turning to the past work and future prospects of women in medical research, Sir HENRY BUTLIN dwells on the qualities of mind and heart necessary for scientific investigation, and declares that in such important characteristics as humanity, patience, industry, cleanliness, perseverance, enthusiasm, and manual dexterity women are as well equipped as men. And here he plants a shaft of criticism: he suggests that women cannot be relied on to furnish accurate records of fact. This is indeed a serious allegation, for extreme and habitual accuracy in making and recording observations is vitally necessary in every branch of scientific research. If it be true that intelligent and highly-trained women cannot be trusted to make accurate records of simple business affairs, then clearly they cannot be trusted to conduct and record investigations, and so long as this is the case they are not fitted for research. We hope that this question of accuracy and sex, now that it has been raised by so eminent an authority, will be sifted without passion or prejudice. Women are challenging men in every intellectual field, and in so doing they invite criticism and comparison. The charge of inaccuracy should awaken, not resentment, but anxious thought and inquiry. If, so far at least as medical and scientific women are concerned, the allegation falls to the ground, then they will be the gainers. If impartial inquiry upholds Sir HENRY BUTLIN'S suggestion, we should be disposed to lay the blame upon the upbringing of women and not upon their sex. Between diligence and true accuracy there is a distinction which is not solely temperamental, but is largely a matter of education. Accuracy in science implies trained intelligence. The habit of accuracy cannot be acquired suddenly, but must be developed during youth as an integral part of the character. If women are inferior to men in this respect then their progress in research will wait upon the heels of reform in the methods of general education for women. OLIVER WENDELL HOLMES, when asked at what age we should begin to live aright, answered, "Two hundred years before we are born," an answer which took into consideration the influence both of a long heredity and a stable environment. As Sir HENRY BUTLIN points out, few women up to the present have taken up medical research, though the success of CAROLINE HERSCHELL and Madame CURIE in other lines of scientific investigation proves that the highest positions may be open to them. Mr. BUTLIN'S interesting and suggestive address ends on a note of inquiry. Granted all other requisites, have women the breadth of mind to originate and to organise independent research, or are they only suited to carry out work designed and directed by men? Can they lead in science or must they always be led? Sir HENRY BUTLIN does not know, he will not predict, but he would have them try. His hearers no doubt took this as qualified encouragement.

Pioneer women have fought long and bravely for equal rights and opportunities for their sex in the world of medicine, and bit by bit their claims have been recognised and conceded. It can scarcely be said that women are already on equal terms with men in every professional respect; but many harsh disabilities have been removed, and a woman can now receive an excellent medical education under conditions almost as favourable for developing skill, knowledge, and resource as those offered to male medical students. If the relative opportunities as between the two sexes are ever really equalised, it may then be possible to decide whether women are inherently fitted to rival men, not only as clinicians, but also as original investigators. At present the conditions are not alike, and we venture the opinion that the full handicap will not be lifted from medical women so much by throwing open demonstrations or degrees or appointments to them as by revising the environment and training of school-girls, and especially of those who show early aptitude and inclination for intellectual pursuits.

Annotations.

"Ne quid nimis."

JUSTICE FOR THE JUKES.[1]

WE welcome a reprint of this well-known work, the last edition of which was published in 1877. "Juke" is the pseudonym given by Mr. Robert L. Dugdale to a family whose environment and lineage he investigated through seven generations, beginning with one "Max," a descendant of the early Dutch settlers, who was born between 1720 and 1740, and lived the life of a backwoodsman in New York State.

[1] The Jukes: A Study in Crime, Pauperism, Disease, and Heredity. By Robert L. Dugdale. With an Introduction by Franklin H. Giddings. Fourth edition. London and New York: G. P. Putnam's Sons. 1910 Pp. 120. Price 5s. net.

Two of his sons married two out of six sisters named "Juke," and the descendants of five of these sisters, to the number of 540, as well as 169 related by marriage or cohabitation, have been traced. They include criminals, prostitutes, inebriates, and paupers, as well as respectable persons. Robert Dugdale was a man with great powers of observation and sound judgment. His views, put forward more than thirty years ago, are fully in accord with the modern tendency to attribute ever-increasing importance to environment at the expense of heredity. There is considerable irony in the fact that his book should be so often cited as supporting precisely the opposite view. For this record of the Juke family has been quoted over and over again as an instance of the force of heredity in relation to crime, inebriety, and social degeneration. Upholders of the eugenic movement have delighted to draw a moral from the supposed story of the Jukes, and have often done so in a prominent way in our own columns, where recently the following can be found: "Then there is the famous Juke family. Ada Juke, known as the 'mother of criminals,' left 1200 direct descendants, of whom nearly 1000 were criminals, paupers, inebriates, insane, or on the streets. The cost to the State directly in consequence of this inheritance was £260,000, while the indirect loss cannot be estimated." We have taken the same line, but if the original book is read in the light of Professor Giddings's preface it seems that the Juke family have been unfairly treated. The statistical summary shows that of the 709 descendants of the five sisters and those of "x" blood there were 76 criminals, 142 who received outdoor relief, and 64 in almshouses. No special investigation into the number of mentally deficient persons is recorded, but the tables show only one person of Juke blood as insane and one idiotic. The inferences in respect of inheritance cannot be justified. Professor Giddings points out in the introduction that the book is in no way a demonstration of hereditary criminality or degeneracy, and that the author never made any such claim for it, forgetting that a series of recorded facts might have a lesson which the recorder did not seek to convey. But he utters a caution against mistaking coincidence for correlation, which has clearly been needed, for wherever the facts appear to indicate the inheritance of vicious tendencies he points out that they can be explained as the result of a continuous bad environment. On the other hand, he quotes instances of children of vicious parents who under the influence of a new and good environment have become useful members of society. The general conclusion to be drawn from the book is that where the organisation is structurally modified, as in idiocy and disease, heredity is the preponderating factor in determining the career. In other cases the environment has more influence than the heredity. Pauperism and crime are to be overcome by training and education. The investigation into the Juke pedigree provides material for illustrating the fallacies which are frequently made when dealing with a "family" without having given a scientific definition to that word. Usually deductions are based on the assumption that a family consists of a number of persons who have descended from a single pair in a kind of ever-broadening stream. It is forgotten that were it not for the marriage of cousins an individual of the seventh generation would have 64 ancestors of the first generation all standing in precisely the same relation to him, and 126 ancestors altogether. In the loose statements made about the family of Juke the outside blood is always ignored, and the unfortunate "Ada" is made responsible for all the criminals, and this to an exaggerated number. In her detailed biography she is described as being "temperate and not criminal"; the worst things against her are that she was a harlot before marriage and was not industrious. Similar descriptions apply to most of her children. It is from those who married into the third and fourth generations that the worst strains seem to have been introduced. An interesting instance is given in the case of "Bell," the second sister. Her three eldest illegitimate children are described as being honest, industrious, and self-supporting. The fourth child was not a criminal, but he married outside the Juke blood, and among his children are found criminals. If any inference at all is justified, it is that the "x" blood and not the Juke blood was responsible for these particular criminals. Yet everyone believes, because we have been so often told it, that the Juke strain was the one at fault. A false impression once generally accepted is difficult to correct, but we hope that this new edition of Mr. Dugdale's book will be read by those who wish to use its lessons in their public pronouncements.

THE INDIAN RESEARCH FUND.

LAST year the attention of the Government of India was directed to the opinion expressed by its expert scientific advisers that the progress of public health in India might be greatly advanced by the establishment of a special fund devoted to defraying the cost of research work in connexion with public health and hygiene. After the question had received due consideration the Government accepted the views of its scientific advisers, and as a result it is now announced that a sum of 5 lacs of rupees has been set aside as an Indian Research Fund. The primary object of this will be to carry out the policy, which has already been adopted in India for some years, of making a direct attack upon certain of the more important epidemic diseases. It is very properly maintained that scientific investigations form the starting-point and basis of this policy, experience in other countries as well as in India having demonstrated that when the actual sources of infection and the mode in which it is transmitted have been definitely ascertained, the measures for preventing and controlling the disease become greatly simplified and are likely to prove far more effective than those recommended before such knowledge had been gained. From an editorial record in the recently published third number of *Paludism* (the organ of the Central Committee for the Study of Malaria in India) we learn that the organisation proposed for carrying out the objects of this newly established research fund is to be an association consisting of permanent and temporary members. The control and management will be vested in a governing body, of which certain members will be appointed to act as a Scientific Advisory Board, through whom proposals in connexion with the scientific objects of the association will be submitted. The proposals approved by the governing body will be carried into effect with the aid of working committees, of which the Central Committee for the Study of Malaria will be one. It is hoped to form committees to organise and carry on study in regard to the following: (1) medical entomology; (2) vital statistics and the more general problems of disease; (3) cholera; (4) plague; and (5) problems of practical sanitation and especially the preparation of schemes for model towns and other measures by which the efficacy of sanitation is demonstrated to the public. It will be seen that this programme includes further investigation of three at least of the most fatal but preventable diseases in India—malaria, plague, and cholera. Malaria annually carries off more than a million of the inhabitants of India, and in epidemic years a good many more. We have recently alluded to the terrible sacrifice of life caused during the last 14 or 15 years by plague in India, and this still continues; and as cholera has been epidemic in India for a long series

of years, and still slays thousands of the population every year, we rejoice to see that opportunity will be taken by means of the research fund to make further investigation with a view to lessen the serious mortality from it as well as from the two other diseases which at present are the scourges of India. It is particularly gratifying to find that general sanitation is to receive its due share of attention. The construction of sanitary works or buildings must lead to far-reaching and unexpected effects in benefiting the general health of the people. We also learn from *Paludism* that in anticipation of an allotment of money from the research fund the Central Malaria Committee has already formulated its proposals, which are to be submitted in due course to the governing body. These include research as to: (1) prevention of malaria among troops, (*a*) by experiments as to the best modes of protecting the soldiers, and (*b*) investigation into the efficacy of quinine prophylaxis among the military; (2) the institution of malariometric investigations; (3) inquiry into the bionomics of anopheles; and (4) inquiry into education propaganda. The carrying out of these and similar researches cannot fail to prove of benefit to the inhabitants of India, while contributing largely to the general stock of available knowledge. The money voted to the research fund we feel sure will prove a good investment, leading to the reduction of the high death-rate in India, besides preventing much unnecessary suffering.

PLEURAL EFFUSION WITH RIGIDITY OF THE PLEURA AND MEDIASTINITIS.

AT a meeting of the Société Médicale des Hôpitaux of Paris on June 30th M. Millardet reported a case of pleural effusion with an unusual complication which produced a puzzling combination of signs. A youth, aged 19 years, previously in good health, was seized with rigors and pain in the left side on Feb. 18th while in Paris. He did not seek medical advice, but returned home to Rennes, and was admitted to the Hôtel Dieu on the 24th. On percussion the left chest all over, in front and back, was absolutely dull, suggesting a large effusion with a lung so collapsed that air no longer entered it. But on auscultation M. Millardet heard to his great surprise well-marked double pleuritic friction, such as would be found in cases of a small effusion. As in the latter, he also found well-marked ægophony and whispering pectoriloquy. Vocal fremitus, which with so much dulness should have been abolished, was present, and scarcely less than on the right side. In certain cases of pneumonic consolidation of the lung a small amount of pleural effusion may, in consequence of the incompressibility of the lung, mount high in the pleural cavity. But in such cases there are dyspnœa, expectoration, tubular breathing or râles, and displacement of the neighbouring organs by the effusion, which is under pressure. In this case there was no dyspnœa, cough, or râles—a remarkable fact with an effusion reaching to the clavicle—though the heart was displaced two finger-breadths to the right of the sternum. Traube's space was not encroached upon and remained tympanitic. There was only one plausible hypothesis—infiltration of the pleura producing rigidity. Assuming this, the fluid could not push back the lungs or neighbouring organs; it would with difficulty separate the parietal from the visceral pleura, and, though in small quantity, might extend through the whole thorax. It would be necessary that the whole pleura, visceral and parietal, mediastinal and diaphragmatic, should be rigid. The only exception would be the layer covering the pericardium, as the heart would offer resistance to pressure; but in this case it would suffer compression, producing dyspnœa. As none was present the rigidity of the pleura must in the present case be general. The objection arose that such rigidity usually occurs in adults who have long been subjects of chronic rheumatism or chronic infection. In this case there was nothing to suggest syphilis or tuberculosis. Paracentesis was decided on, but its difficulties were foreseen. Fluid contained in a rigid cavity might not yield to aspiration unless the admission of air was provided for. A second needle was prepared for this purpose. The *interne* failed to pass the trocar into the pleural cavity, though forewarned of the difficulty and used to paracentesis. It was passed with difficulty by M. Millardet in consequence of the great resistance of the pleura. 1600 grammes of brownish sero-fibrinous fluid were withdrawn. Contrary to what usually happens in paracentesis, the lung was never once felt beating against the cannula. This was explained by the want of suppleness of the visceral pleura which held down the lung. After the paracentesis Traube's space was exactly as tympanitic as before and the cardiac apex remained two finger-breadths to the right of the sternum. Evidently the pericardium had contracted adhesions to the mediastinum. Cytological examination of the fluid showed some red blood corpuscles and numerous lymphocytes—a condition which was in favour of a tuberculous origin of the pleurisy, but did not exclude syphilis. It was intended to perform the Wassermann reaction, but the patient left hospital on his own initiative. He was seen again a month later. The heart had almost regained its normal position and pleural friction was present. The pulse was 126—a fact which was in favour of the diagnosis of tuberculosis in spite of the apparently robust appearance of the patient. The case not only offers an interesting problem in diagnosis but is important in regard to treatment, for it gives warning of the difficulties of paracentesis.

THE PHARMACIST OF THE DAY.

Dr. J. Macdonald Brown, at the opening of the session of the School of Pharmacy of the Pharmaceutical Society on Wednesday, Oct. 4th, delivered an interesting inaugural address with the above title. Disclaiming any intention to trace the history of pharmacy through the ages, he none the less dwelt humorously upon the evolution of pharmacy from alchemy and the gross quackery of the ancient nostra to its present position as a scientific profession. Of the National Insurance scheme he hoped good things, but while speaking of advances made, and still to be made, in the State recognition of pharmaceutical work, he alluded to a recent piece of legislation in severe terms. "One cannot but regret," he said, "the step taken by the Government when, in 1908, the legislature sanctioned a change in the poison laws, by which arsenic and the alkaloids of tobacco were liberated from the operation of the Poison Schedule, and it became enacted that certain classes of ordinary tradesmen (men who had received no education or training in the handling of poisons) might sell these dangerous poisons to the public, simply by the acquirement of a licence from the public authority in their particular town or district—a licence which appears to have been granted in most cases as a mere matter of form. To think that such looseness of action in a matter so important could have been sanctioned by any Government in the world is monstrous and incredible." Dr. Brown then described the course demanded of the pharmaceutical student, in the course of which he bewailed, as too many of those interested in medical education have had to do, the tendency of the present day to spoon-feed those in the state of pupillage. In addition, he said, to lectures, demonstrations, and text-books, coaches and crams of the most varied character abounded, and in

his opinion these flourished mainly because the tendency of the day was to work for the examination and not for the knowledge itself. This is certainly true, but it also is a position exceedingly hard to alter. Examinations are necessary; such tests must be rigorously applied for the protection of the public, and all that educational authorities can do is to see that the character of the examination is kept as practical as possible, that due stress is laid both in the papers and in the *viva voce* questions upon essential principles, and that the examiners are selected with regard to the responsibilities which they have to discharge.

WOODY PHLEGMON OF THE NECK.

IN 1893 Professor Paul Reclus described under the name of "woody phlegmon of the neck" a form of inflammation which he believed to have been previously unrecognised. He said that the condition occurred in men over 50 in broken-down health, but free from other disease. A slowly extending, board-like infiltration developed in the neck, sometimes in front, sometimes at the side. The skin gradually became of a wine-red, blue, or purplish colour. There was no fever or pain. At first cancer of the skin was simulated, but after five or six weeks œdema and fluctuation appeared, and pus was discharged spontaneously or after incisions. The phlegmon then slowly healed, but in one case the patient succumbed to œdema of the glottis. Professor Reclus thought that this form of inflammation might occur in other parts and be confounded with cancer, actinomycosis, or tuberculosis. He believed that it was due to microbes of low virulence. Cases were subsequently described by many other surgeons on the continent. In the *Journal of the American Medical Association* of July 29th Dr. Charles A. Powers has reported three cases. In the first a labourer, aged 50 years, in poor health, came under observation with a hard, fixed, bluish mass, something resembling a flattened apple, in the middle line beneath the lower jaw. The history was that he had suffered from a tender swelling in the floor of the mouth for one month. This had twice been incised with discharge of pus. The swelling beneath the jaw came on slowly, painlessly, and progressively. On examination it was of stony hardness and fixed to the deep tissues; the skin was adherent and slightly œdematous. A provisional diagnosis of carcinoma was made. Under local anæsthesia the swelling was deeply incised. The cut surface was hard and greyish-white; no pus was encountered. A piece was submitted to Professor J. A. Wilder of Denver for microscopic examination, and he reported it to be fibrous inflammatory tissue. Treatment consisted in local moist applications and tonics. In three weeks the mass greatly increased in size and small superficial foci of suppuration appeared. On incision they yielded thin pus containing staphylococcus pyogenes albus and aureus. After three or four weeks the mass began to diminish slowly, and the patient passed from observation. He was seen again four months after the onset. There was some thickening beneath the jaw, and its movements were somewhat restricted. During the height of the swelling deglutition was interfered with. In the second case a man, aged 45 years, was seen. Two months before he had suffered from infection round the left parotid gland, and on incision a little thin pus was evacuated. The inflammation did not subside, but extended to the left side and back of the neck, painlessly and without fever. On examination the whole of the left side and back of the neck showed a diffuse hard swelling which extended from the occiput and mastoid process above to the level of the spinous process of the fourth cervical vertebra below, and forward towards the jaw and across the median line. The swelling was fixed, and the overlying skin was attached to it and somewhat discoloured. It gave the impression of malignancy. On incision it was hard and whitish, and looked like carcinoma. Complete removal was impossible. Professor Wilder examined excised portions and reported that the condition was inflammatory fibrosis of muscles and fasciæ. At no time while the patient was under care was there suppuration. The patient died three years later, but the cause of death could not be ascertained. In the third case the woody phlegmon followed acute inflammation of the connective tissue of the neck (Ludwig's angina). In a recent letter to Dr. Powers Professor Reclus states that he does not consider woody phlegmon a definite morbid entity, but a reaction which can be provoked by any pathogenic germ, not only by the ordinary agents of suppuration but also by fungi (actinomycosis and sporotrichosis). The reaction is characterised by the formation of fibrous tissue and may occur in other regions than the neck, for example, around the abdominal viscera, especially in the right iliac fossa or around the kidney. The so-called perinephritic sclerosis is practically a woody phlegmon.

THE LONDON MEDICAL EXHIBITION.

THE London Medical Exhibition held annually in the Royal Horticultural Hall, Vincent-square, Westminster, continues to gain support from professional visitors. The exhibition, which was held this week, revealed a further development upon scientific lines, which proves that, apart from the commercial aspect of the meeting, a real opportunity is offered to the surgeon and physician and their assistants to become practically acquainted with recent advances in pharmaceutical preparations, special dietetics, surgical appliances, sanitary devices, and so forth. The exhibition attracts also the manufacturers who provide the profession with its armamentarium, and the result is that the medical man finds his visit interesting and instructive. The invitations to the demonstrations are sent to medical men only, a plan which secures an audience bent on seeing all that counts for progress in medicine and a class of demonstrator which issues no appeal to the layman. The increasing success which attends this exhibition year by year must be attributed to this policy, for it draws larger attendances on each occasion, and its professional character is well maintained. The exhibition this year has been marked particularly by the excellent demonstrations given of advanced therapeutics and of fine pharmaceutical products, while a further interesting feature was formed by the exhibitions given of the applications of radio-activity in medical practice.

LIGATURE OF THE SPERMATIC ARTERY IN THE OPERATION FOR VARICOCELE.

SOME eight years ago Dr. E. Styles Potter of New York advocated the treatment of varicocele by ligature of the spermatic artery as well as the veins, and now, in the June number of the *International Journal of Surgery*, he reports on 214 cases of the employment of his method, and the results which he has obtained have served only to strengthen his opinion of its value. It is generally held that it is important to avoid tying the spermatic artery when excising the spermatic veins, as otherwise atrophy of the testis is liable to occur. Dr. Potter, however, has never seen atrophy following his operation. He has been able to follow up 67 of the 214 cases, and some of these for several years, and in none of these was any atrophy to be seen. In one case orchitis appeared, but no cause for it could be found. Relaxation of the scrotum with ecchymosis of the scrotum and penis frequently occurred, but it passed off in a few days. Dr. Potter considers that when the spermatic artery is tied the blood-supply of the testis is carried

on by the artery of the vas deferens, so that he sees no reason why atrophy should occur. He has not yet tried ligature of the spermatic artery without at the same time tying the veins, but he hopes that it will be done, and he says that he expects that a gradual atrophy and absorption of the veins will occur. It is probable that the artery has been sometimes tied unintentionally, for it is not easy to distinguish the spermatic artery from the veins at an operation.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

DURING October a series of demonstrations of museum specimens will be given by Professor A. Keith and Mr. S. G. Shattock. The series commences on Friday, Oct. 13th, at 5 P.M., when Professor Keith will deal with specimens added to the museum during the last three years illustrating "Various Recent Discoveries in the Anatomy and Pathology of the Heart." The second demonstration will be given by Mr. Shattock on Monday, Oct. 16th, at 5 P.M., on specimens illustrating "Necrosis," a section of the museum which is being greatly extended at present. The other demonstrations will also be given on Fridays and Mondays throughout the month as announced in our "Diary of the Week." Recent additions to the museum provide Professor Keith with an opportunity of giving a very complete exhibition of the lesions seen in acromegaly.

THE PRESERVATION OF VACCINE VIRUS IN HOT COUNTRIES.

WE have received from Dr. J. Dickson Hunter, of Arequipa, Peru, the paper to which he alluded in our columns last week. This was originally published in the *Bulletin de la Société de Pathologie Exotique* by M. Pierre Achalme and Dr. Marie Phisalix, and gives details of what is described as a practical method of preserving vaccine lymph in tropical countries. They find that the glycerination of the lymph is less efficacious in hot climates than in temperate ones. The glycerine prevents the development of the bacteria present in the epidermal débris existing in the lymph. This bactericidal action is, however, apparently not directly produced by the glycerine, but by the soluble ferments present in the cells and extracted by the glycerine. It is found that the preservation of the vaccine in hot countries is more certain if glycerine is added to the crude material derived from scratching the vesicles than if this is previously rubbed up and triturated. The reason of this is that these procedures set free the intracellular ferments more completely, and that these are more powerful at temperatures near 37° C., and therefore attack the vaccinal agent as well as the extraneous organisms. After many trials M. Achalme and Dr. Phisalix have adopted the method of desiccation as the best means of preserving the vaccine at warm temperatures. They state that this observation is not absolutely new, since Wurtz of the Belgian Vaccine Institute has shown the advantages of the procedure, and Carini has demonstrated the increased resistance of powdered vaccine to raised temperatures. M. Achalme and Dr. Phisalix suggest that this process of rapid desiccation hinders the growth of bacteria and the activity of the soluble intracellular ferments, but they maintain that in order to obtain these effects it is necessary to secure complete desiccation and to preserve the dried material in sealed tubes because of its hygroscopic properties. The method they have adopted is to take 30 grammes of crude vaccine, obtained directly from heifers, and to dry it rapidly *in vacuo* on porous plates in the presence of sulphuric acid. After 12 hours the process of desiccation is complete and the vaccine is converted into a horny brittle mass. Some of this material they have preserved in sealed tubes in an incubator at a temperature from 37·5° to 38° C. for a year, and on inoculating it into heifers have obtained a typical eruption of vaccinia. They have also found that the vaccine keeps better in fragments than in powder, and better *in vacuo* than in contact with air. On investigating the effect of various temperatures they have found that after keeping the vaccine for six days at 57° C. it would still give a reaction, but that it was much weakened, that a temperature of 45° C. was also slightly injurious, but that those of 41° C. and 42° C. exerted no harmful action. They therefore recommend the adoption of this method for the transport of vaccine to tropical countries. The dried vaccine can be very readily prepared for use, since in virtue of its marked hygroscopic character it will readily absorb either normal saline solution, weak glycerine and water, or sterile water, any of which rapidly convert it into a pulpy mass very convenient for use. The supply of active vaccine for warm climates is an important matter. The method described has the merits of simplicity and convenience, and if it can be shown that the growth of extraneous organisms is equally well prevented by its use as by glycerination, it should prove a valuable help in the preservation of vaccine for these climates. Dr. Dickson Hunter's interesting letter sufficiently proves the need for a desiccated and efficacious vaccine.

HEMLOCK AS A STATE POISON.

IN ancient Athens the prisoner condemned to death was made to drink the juice obtained by the decoction of hemlock (*κώνειον*, the Latin *cicuta*), the seeds of which were pounded in a mortar as the first step in the preparation. The poison acted slowly, its efficacy consisting of its refrigerating power (the *vis refrigeratoria*, according to Pliny the Elder) —a process which spread from the lower extremities to the heart, when death ensued accompanied by spasm or convulsions, symptoms expressly noted by Plato in the case of Socrates. Its action was antagonised by wine, which was often used as an antidote, beating the patient, and so impeding its characteristic action, a result also obtained by the effort and excitement of discussion, as was stated to Socrates by the expert in whose charge he was, so that the dose had often to be readministered to a talkative subject once or even twice. Phocion, the great antagonist of Socrates (according to Plutarch), was put to death by the draught of hemlock as prescribed by the State, and before him, as narrated by Xenophon, Theramenes was executed by the same method. Of late years some doubts have been thrown on Plato's account of the drug's action, hemlock juice (it is alleged) producing symptoms of a quite opposite kind. These doubts, however, have just been disposed of by the professor of materia medica in the Medical School of Dundee, Dr. Charles R. Marshall, who, in a note communicated to Professor Burnet of St. Andrews, the most recent editor of the "Phaedo," maintains the soundness of Plato's narrative, the doubts referred to being, in his opinion, "unworthy of serious consideration." Although he admits that *Conium maculatum* is somewhat peculiar in its action, and that the symptoms ensuing on its exhibition may vary with the dose, and probably with the individual, still he is decidedly of opinion that the death of Socrates was due to the said conium and in the manner described by Plato. The whole subject of poison in antiquity as a means of State-execution or of suicide is deeply interesting and might well inspire a special treatise at the hands of the toxicologist. Bull's blood is said to have been taken with lethal purpose and effect by Themistocles, and Phocion's great rival Demosthenes,

according to Plutarch's dramatic account, took poison in the Temple of Poseidon, graduating the dose, which he sucked from the point of a writing-quill, so that it might not take effect till he was well out of the sacred precincts, which were thus immune from desecration by self-murder committed within them. Hannibal is said to have carried in a ring the poison by which he committed suicide; but what that poison was is still a matter of controversy, as is also that employed by Demosthenes. In mediæval times such methods of "cheating the gallows" were common enough—witness the cynical self-possession with which (in Scott's "Fair Maid of Perth") the mediciner Henbane Dwining baulked his executioners on the ramparts of Falkland Castle.

THE ASYLUMS OFFICERS BILL.

A BLUE-BOOK has been issued containing the special report of the Select Committee on the Asylums Officers (Employment, Pensions, and Superannuation) Bill. The committee, we are glad to note, shows a full appreciation of the very arduous and responsible duties imposed on asylum attendants, and recognises that the conditions under which these duties are carried out must be materially improved if a proper standard of excellence is to be maintained in the personnel of our institutions for the insane. At present, according to the estimate of the Lunacy Commission, the number of hours' work required of the asylum attendants averages for England and Wales 84 per week. This is obviously excessive, especially when regard is had to the nature of the work, much of which, as the committee justly observes, is tedious, monotonous, wearing, and not free from some personal risk. That a more reasonable system is quite practicable is shown by the example of the London County Asylums, in which the male attendants work on an average 66 hours on the day and 63 hours on the night staff, and the nurses 72 hours on the day and 65 hours on the night staff. Considering the demand which the nursing of the insane makes on tact and temper, these hours seem quite long enough, and this view, we may add, is to be urged not less in the interest of the patients than of the attendants themselves. The committee recommends that Parliament should impose a statutory maximum, and it suggests as a reasonable limit 70 hours a week for the day staff and 60 hours for the night staff. It deprecates, however, any attempt to introduce a stereotyped system, and it advises that within the statutory limits each visiting committee should be empowered to draft its own scheme of hours of duty and periods of leave. It is satisfactory to note that the committee disapproves strongly of the proposal to pay overtime, a system which in asylum work has obvious disadvantages as compared with the alternative method of allowing equivalent leave for extra duty. With regard to superannuation, it is very reasonably suggested that as the salaries of nurses are generally lower than those of male attendants, an effort might be made to redress the balance by granting pensions to nurses on a higher scale. The Bill, as amended in committee, should go a long way towards removing the very real grievances under which asylum attendants have laboured; it is therefore to be welcomed as a measure of justice to a very deserving body of public servants, and further, as a reform which must tend to promote the efficiency of the institutional care of the insane.

THE first Hunterian lecture will be delivered by Dr. T. B. Hyslop on Oct. 11th, at 9 P.M., on "Intracranial Murmurs in their Relationship to Tinnitus Aurium," at the London Institution, Finsbury-circus. The lecturer will deal with some of the more important of the anatomical and physiological problems of intracranial physics, including the pulsatile, respiratory, and peristaltic movements of the cranial contents. Examples will then be given of morbid affections of the vascular and lymphatic systems which may, in some instances, be attended by acoustical phenomena, which may be observed both subjectively and objectively. All members of the medical profession are invited to attend.

THE undermentioned gentlemen have received the authority of His Majesty the King to accept and to wear the decorations which have been conferred upon them by His Highness the Khedive of Egypt—viz., the Third Class, Imperial Ottoman Order of the Osmanieh, to Mr. Alexander Granville, of the Egyptian Ministry of the Interior; and the Third Class, Imperial Ottoman Order of the Medjidieh, to Dr. Reginald Gower Kirton, Chief Medical Inspector of Prisons, Cairo.

THE death has occurred of Dr. Joseph Bell, of Edinburgh, consulting surgeon to the Edinburgh Royal Infirmary, for many years editor of the *Edinburgh Medical Journal*, and admitted by Sir Arthur Conan Doyle to be the prototype of Sherlock Holmes.

THE Harveian Oration will be delivered by Dr. C. Theodore Williams at the Royal College of Physicians of London at 4 o'clock on Wednesday, Oct. 18th.

REPRESENTATION OF HONORARY MEDICAL STAFFS UPON BOARDS OF MANAGEMENT OF VOLUNTARY HOSPITALS.[1]

BY ERNEST S. REYNOLDS, M.D. LOND., F.R.C.P. LOND.,
PHYSICIAN TO THE MANCHESTER ROYAL INFIRMARY, AND CHAIRMAN OF THE MEDICAL BOARD.

SOME ten years ago, owing to an acute disagreement between the lay and medical elements of one of the London hospitals, a series of articles appeared in the *Practitioner*[2] on the question of hospital management from the lay and the medical points of view. The arguments in favour of medical representation on boards of management are so convincing that further discussion on the subject seems to me to savour of the profitless undertaking of flogging a dead horse; and I was unwilling to undertake the request that I should read this paper until I learned, with surprise, that there are still hospitals in this country in which such arrangements do not exist.

To shorten my argument, I take it for granted that every hospital possesses a lay board of management (composed entirely, or almost entirely, of laymen) and a separate medical committee (composed of the honorary medical and surgical staff), and these I will allude to below as "the board" and "the staff" respectively.

Now it is always well in dealing with an adversary in argument to consider as calmly as possible why it is he can persist in being so adamant as not at once to alter his opinion in accordance with the views you put before him, and so far as I can surmise the reasons for a purely lay administration of hospitals are: (*a*) the question of ownership, (*b*) the finding and spending of money, (*c*) business capacity, (*d*) possible censure of one or more members of the honorary staff, and (*e*) lay suspicion of medical hospital practice. I will consider these seriatim.

(*a*) *Ownership.*—I suppose that in law a voluntary hospital is owned by the trustees, who are entirely, or almost entirely, laymen, and it naturally seems to follow that they should manage their own property. This highly complex organism, a hospital, comprises not only buildings and paid lay and medical officers, but also as a most important and indispensable part of its working units an honorary medical staff; and

[1] A paper read at the Conference of the British Hospitals Association, held at Manchester, on Sept. 29th, 1911.

just as the paid officers have naturally no voice in the management, so it is supposed that the honorary staff should have no voice. But it should be remembered that a large number of hospitals in this country have been initiated by medical men in the district, partly from philanthropic motives, and partly, to put it broadly but in no sinister sense, for purposes of self-education and advertisement, and it seems somewhat arbitrary that having once started the hospital they or their successors should take no further part in the management. Secondly, the honorary staff are not paid except indirectly by the experience gained and the advertisement of being on the staff, and if owing to bad management the hospital is a failure the reputation of the staff may suffer enormously.

(*b*) *The finding and spending of money.*—The obtaining of money to maintain a hospital is largely the work of the board, but this does not seem to me to be a reason why the staff should not have a voice in the expenditure. I am sure the Chancellor of the Exchequer could not well object to the First Lord of the Admiralty and other members of the Cabinet having a "say" in the Naval Estimates. Moreover, it is by no means unknown for members of the honorary staff not only to contribute to the funds of the hospital, but also to obtain large sums from their richer patients.

(*c*) *Business capacity.*—It is frequently stated, and in the articles in the *Practitioner* already alluded to is rather insisted upon, that members of the medical profession are very lacking in business capacity. I admit that some of them are, but I have seldom known a successful medical man who was not businesslike in his habits. Want of business capacity is a fault which has been commonly associated for centuries with scientists and artists and has frequently been made the subject of mirth, and in spite of this, such unbusinesslike people have won the greatest renown, often, however, without making great fortunes. But taking the average run of successful doctors they are in my experience quite as businesslike as other members of the community. I have even known more than one unbusinesslike lawyer.

(*d*) *Possible censure.*—It may be urged that if it is deemed necessary to censure a member of the honorary staff either for irregular attendance or irregular conduct it would be difficult to do so if the member himself or one of his colleagues is sitting on the board. But, firstly, such occasions are very rare; and, secondly, it is exactly on such occasions that mistakes may be made by laymen which a word from a [member of the staff will rectify at once and so prevent possible friction and misunderstandings.

(*e*) *Lay suspicion.*—Finally, it may be argued that the staff should not be represented on the board because of the suspicion which many of the lay public unfortunately have about medical work in hospitals, and especially in hospitals to which medical schools are attached. The idea is that "the doctors must be looked after." I do not believe there is the slightest foundation for this suspicion, but, knowing that it exists, I think it is in the highest degree desirable that hospitals should be managed by laymen, who should be in overwhelming preponderance in number on the board. But this is no reason why some of the board should not be drawn from the staff—rather, indeed, that they should be present, so that they may hear at first hand, and be able to correct at once, unjust allegations made against them or their colleagues.

The above are the only reasons I can think of for the exclusion of staff representatives from boards of management; possibly other reasons may be brought forward by the members of this conference.

Let us now consider reasons why the staff should be represented on the board. It is obvious that some means must exist by which the views and requests of the board and of the staff can be communicated one to the other. The three methods of intercommunication are: by resolutions placed on the minute book or forwarded by letter; by conference; or by direct representation of members of the staff on the board. A point arises here which may be at once disposed of. It may be argued that if the staff is represented on the board of management the latter should be represented at the meetings of the staff. But as a matter of experience, the meetings of the staff are taken up almost entirely with purely medical or teaching matters, and also (at any rate at the Manchester Royal Infirmary), in the rare event of the board wishing to discuss matters with the full staff, a conference is always most readily arranged.

In the method by resolution or by letter the communication may be ignored by the other parties, it may be misunderstood or may not be clearly and fully worded, and may thus require a whole mass of correspondence, thus causing a delay of weeks or months over a matter which a personal explanation would settle in a few minutes. The method by conference is better, but again involves unnecessary delay in arranging a time and place to suit all parties. By regular representation these delays and misunderstandings are at once done away with. Misunderstandings may and do arise first because of the different points of view from which lay and medical men look at certain questions, and, secondly, because of the somewhat extraordinary ignorance sometimes displayed by lay members of hospital boards about hospital matters, and not unfrequently even on matters relating to the very hospital on whose board they serve. This ignorance may be found more particularly in those members who may possibly attend quite regularly, but who are very busy public men who have already too many irons in the fire. Examples of misunderstandings because of a different viewpoint may arise on certain subjects which are principally professional but on which the layman sometimes thinks his knowledge is of great importance, such subjects as relate to the decoration, furnishing, ventilation, warming, and alteration of wards, the expense or utility of certain dietaries, the use of alcohol and the amount ordered, the necessity or otherwise for special medical and surgical appliances or methods of treatment proposed by the staff which some layman may consider to be a mere fad, or some method proposed by the layman which the staff know to be a fad; and last, but by no means least, letters which sometimes come, even in the best regulated institutions, complaining of the treatment which patients have received. By direct representation also matters which have been dealt with by the medical board and entered briefly on their minutes can be at once, if necessary, explained in full detail before the lay board. But in many other subjects which arise at the meetings of the lay board, such as those relating to pure finance, many legal matters, the management of servants (other than medical), the placing of contracts and similar purely business affairs, the layman is, and ought to be, paramount, and such matters are better left alone by the staff even if present at the board meetings.

I have worked at hospitals under lay boards both with representatives of the staff and without representatives. I was resident medical officer (and as such was also secretary of the medical committee) of the Manchester Royal Infirmary for the four years 1887 to 1890, and during this time I remember many differences of opinion between the board and the staff, some of these being of a somewhat acute nature; and at times each body, anxious to maintain its dignity, was as far apart from the other as the Lords and the Commons have lately been. This was a bad thing for the constitution of the hospital, but I was so used to this that I hardly knew there was a more perfect way. This I learned when as medical officer and visiting physician to the Manchester Workhouse Infirmary I was asked by the board of guardians to attend regularly at its fortnightly meetings. I then found how easy it was to straighten out in a few words what might otherwise, but for my presence, have been very crooked matters, and how as a result for the 16 years I was an officer of the Poor-law and in charge of a hospital of nearly 2000 beds practically no friction occurred, and certainly none of a lasting character.

About 11 years ago the board of management of the Manchester Royal Infirmary arranged to have representatives of the staff to sit with them, and as one of the physicians I have seen with the greatest pleasure the enormous improvement in the relationship between the board and the staff as compared with what I formerly knew, so that since this change I have never known any friction whatever to occur, and the utmost good feeling exists between the various members of the board and the staff. The system arranged seems to me to be so admirable that perhaps I may be permitted to describe it in a little more detail.

The board of management consists of certain lay trustees, 21 in number, elected by the general body of trustees at their annual meeting. This board meets once a month; exactly the same gentlemen meet once a week as a house

committee. The medical committee consists of all the members of the honorary staff, 23 in number, and meets regularly once a month to discuss any matters relating to the treatment and well-being of the patients, the diet sheets, surgical instruments, the sanitary state of the wards, the consideration of cases which have been over three months in the hospital, and all questions relating to the teaching of students. At the January meeting each year the medical committee elects by ballot four of its members to represent them on the board of management. As a rule—and it ought to be a rule—two of the elected members should be physicians and two should be surgeons, one of the four, however, being from time to time chosen from the honorary officers in charge of special departments, such as those of gynæcology, eye or ear diseases; and, as a rule—and again it ought to be a rule—no member should serve as a representative for more than two years in succession, for it is most important that no one member of the staff should obtain an undue influence on the board. These four elected members now become full members for the year of the board of management and are summoned by the general superintendent and secretary of the infirmary to all meetings of the house committee and the board of management and can take part in all discussions on any subject and can vote. As a matter of fact, they do not interfere as a rule with any subject with which they have no concern, such as finance, &c., to which I have already alluded as being purely lay in nature. They are there more to explain and, if necessary, to advise on points which I think all the members present would consider to be proper for them to deal with, and I do not know of any case in which the explanation or the advice has been resented.

As I have said, this system has worked in the most perfect way at the Manchester Royal Infirmary. At other hospitals, although the staff is represented on the board, its representatives are not allowed to vote. This is a point which does not seem to me to be of any great importance; the thing that matters is the actual presence of members of the staff with permission to explain and advise. At other hospitals the whole of the members of the staff sit on the board. If the staff is small in number and the lay members are preponderatingly large in their average attendance, I do not see any great objection, but otherwise I do, for if there is about an equality in numbers the public might think the staff was managing the hospital, and this is an idea which it is advisable should not exist. Another objection is that if the whole staff is allowed to attend then there may be occasions when no member of the staff is present, each depending too much on the others, for what is everybody's and anybody's work is nobody's work, whereas a few elected representative members of the staff have put upon them the duty of regular attendance. And it is very necessary that this attendance should be regular, for by experience I know how often at the end of some ordinary meeting, just as members are rising, some question is asked or some letter is read which at once fixes the members to their seats and keeps them there for another hour's discussion, and frequently such matters arise which involve and require medical advice and explanation.

I should like before closing to mention one comparatively small matter but which is important. At some hospitals, instead of, or in addition to, members of the active staff sitting on the board a member of the retired staff is present. This is to my mind undesirable, and especially so if he is the only medical member present, members of the active staff not being admitted. It is undesirable because members of the retired staff have a tendency to lose touch with or to lose sympathy with the work of younger men, and the advice they may give to the lay members of the board may be diametrically opposed to the views of the active staff and their presence on the board may become a hindrance to the progressive work of the hospital.

To summarise, I would suggest that in every hospital the staff should be represented on the board of management by some or all of its active members; that these members, if elected as representatives (which is the method I prefer), should be elected annually, should in no case serve for longer than two years in succession, and should be few in number, so that the lay members are always predominant. To those hospitals who have not yet tried this arrangement I would say, "Try it as soon as possible, I have seen the good results."

SOME ADMINISTRATIVE DEFECTS OF THE NATIONAL INSURANCE BILL.

BY GEORGE P. FORRESTER, F.C.S.

AS is clear from a leading article in THE LANCET of Sept. 30th on the National Insurance Bill, medical and public opinion alike is a little in doubt as to the actual conditions prevailing in Germany. Therefore a consideration of the methods under which the German system is applied in practice may prove opportune, particularly in view of the absence in Great Britain of many measures upon which a scheme of this nature is naturally dependent, and which were in existence in continental countries prior to the introduction of this form of social reform.

A scheme designed directly to affect the vital interests of one-third of the entire population of the United Kingdom, and at the same time involving a fresh charge upon the national revenue in addition to the financial claims to be imposed upon an even greater proportion of the citizens of this country, represents a legislative measure fraught with far-reaching consequences which should be embarked upon only after a careful consideration of all the interests directly and indirectly involved, and after making due provision for safeguarding the legitimate claims of all persons coming within its scope. It is to be regretted that in the case of the National Insurance Bill these considerations have not prevailed more fully, for the framers of what is perhaps the greatest scheme for social reform ever presented to the British nation, a scheme fraught with vast possibilities for good and in its conception worthy of the highest praise, cannot be spared the reproach of having introduced a measure incomplete in many essential particulars. Especially they have neglected the creation of provisions absent in our country, but existent elsewhere, and of having disregarded the lessons taught by the experience of other countries. It was a comparatively easy matter to graft a measure of the nature of the National Insurance Bill on to the institutions and conditions in existence in Continental countries, and this fact has apparently been overlooked by our legislators, who in their endeavour to provide the British public with the kind of benefits enjoyed by these other countries have omitted to take into consideration the different conditions and customs prevailing at home, and have overlooked the imperative necessity of first providing similar conditions before adopting similar remedies. In their haste to rush the Bill through they avoided the inclusion of many essential administrative details, and by framing several of the clauses in vague terms they will invite disputes and frequent friction when an attempt is made to carry them into effect. This criticism applies particularly to the administration of the medical benefits, the supply of medicines, the future position of the hospitals, and the peculiar position and hardships awaiting a large section of the to-be-insured.

The unanimous and determined opposition of the medical profession which marked the introduction of the Bill affords an apt illustration of the mistake made in omitting more definite proposals for regulating the administration of the medical benefits. At the same time it shows that the framers were willing to commit the same error as their German colleagues, and instead of profiting from the lesson taught by the long years of strife that have marred the working of this scheme in Germany, and have led to the repeated occurrence of doctors' strikes in that country, they contemplate introducing practically the same, if not worse, conditions, after promising that the doctors were not to be sweated. It is the absence of any legal provision regulating the remuneration of the medical attendant that has proved the greatest source of dispute in the administration of the benefits of sickness insurance in Germany. The system of a capitation grant to be paid to the doctor represents a limited remuneration for an unlimited amount of work. The proposal first put forward by the Chancellor of the Exchequer that each doctor would receive a capitation fee amounting to 4*s.* per person insured presented no satisfactory solution of the problem; a 6*s.* capitation fee to cover the expense of drugs also did not make a favourable appeal. It must be remembered here that the Bill promises the provision of the best medical attendance, but makes no provision for the payment of special cases

requiring the assistance of specialists, such as major operations. True, in Germany the average rate of payment of the sick-club doctor works out at about 4*s.* to 5*s.* per head of the insured, or to about 12*s.* where free medical attendance is also extended to the insured person's family, but this represents his remuneration for ordinary contract practice work, including at the most small operations of minor importance.

In Great Britain there exists no standard scale of charges for medical services save the limited and unrevised Poor-law scale. In Germany the standing scale of charges, containing a minimum and maximum fee for each kind of service, becomes operative in the case of disputes arising between patient and doctor regarding the latter's fee, in the absence of any special agreement. This medical tariff also forms the basis of remuneration for professional work done on behalf of the authorities, for instance in certain classes of poor practice, prison work, &c., and is applicable to patients whose treatment is paid for by sick clubs. Generally, every German sick club, in addition to the club doctors, makes an arrangement with a number of specialists, including a surgeon, a specialist for diseases of the throat, an oculist, and so on, according to circumstances. These specialists are remunerated according to the scale of charges of the official tariff, possibly modified by private agreement to suit special cases. For years already the German doctors have been fighting to obtain a better form of remuneration than the system of capitation payment, and thanks to a splendid organisation which has not hesitated to carry into effect regular strikes of the medical attendants of sick clubs, they have succeeded in vastly improving their economic position. In many cases they have been successful in achieving their ultimate object—i.e., that the official scale of charges should alone form the basis of remuneration for sick-club work, thus substituting the capitation grant for a fixed payment for each service rendered. It would be obviously unfair to expect the British practitioner to start at a level that his German colleague has left behind, yet this would be the case were the Chancellor's scale of 4*s.* to hold good, with the important addition that in order to fulfil the promise to provide the best possible medical attendance provision would still have to be made to pay fees for services outside the province of the club doctor. If the medical benefits are to consist solely in ordinary medical treatment to the exclusion of surgical operations and special advice the German example is not being followed. Had Mr. Lloyd George fully comprehended the working of the German scheme he would have had the advantage of providing the doctors with a tangible subject for argument by embodying in the Bill a draft of a scale of charges for professional work, elaborated with the assistance of a number of doctors. The members of the profession at large would have been in a position to suggest useful amendments, and the vexed question of the free choice of doctors could have been readily solved to mutual satisfaction. It cannot be too strongly emphasised that the successful working of a scheme of this nature largely depends upon the soundness of its principles. It would be well for our legislators not to regard any apparent defects in the German scheme in the light of shedding an extra lustre on the advantages of the British measure; they should seriously consider whether these defects are not being reproduced in some different form.

In the matter of allowing medical men to do actual pharmacy work as well as to prescribe for patients, to act as physician and dispenser combined, Great Britain practically stands alone, with the sole exception of some Swiss cantons and the United States. Everywhere else the doctor writes out a prescription which the patient takes to a pharmacy to have made up, and the doctor is strictly forbidden to dispense his own medicines. Abroad the dispensing of prescriptions figures as the principal duty of the pharmacist, and it cannot be denied that the peculiar position of the "chemist" in Great Britain is largely the result of the anomaly created by depriving him so largely of his legitimate professional activity. Whilst an amendment has been carried, giving effect to the intention of the Bill, that the dispensing of medicines for the insured is to be done by pharmacists, in vain do we look for any mention of administrative details regulating the principles upon which this innovation is to be carried out. We are here again confronted by the absence of a provision existent in many continental countries, which fits in well with the provisions of a national scheme of insurance against sickness, a scale of charges for prescriptions. In Germany, Austria, Hungary, Russia, Scandinavia, Servia, and Bulgaria there exists an official tariff according to which every prescription for rich and poor alike has to be charged; in the case of club prescriptions the Government usually requires a rebate off the full charges, the pharmacist being required to grant a discount of 15 per cent., or even more, on the charges fixed by this tariff.

If the National Insurance Bill is to prove a successful measure of social reform its benefits must extend equally to all concerned, and in the public interest it is imperative to frame its provisions in such a way as to avoid on the one hand any injustice to those called upon to administer its benefits, and on the other hand to prevent any section of the community from reaping unearned profits through the same source. If the medical profession as well as the pharmacists are to participate in administering the medical benefits due precautions should be taken to ensure that each party will be in a position to fulfil his allotted share of work under satisfactory conditions. For this reason the greatest care should be taken to see that the standard of remuneration set up for both should be binding for all parties concerned. If a scale of fees for medical services is established it should be elaborated for the purpose in view and steps taken to ensure its proper application, and in the case of a national dispensing tariff this, too, should be so adapted to suit the requirements of dispensing on behalf of the insured, that its scale of charges will find a rigid application, while special precautions should be taken to prevent any unfair competition among the administrators of the benefits in order that even in its application this may prove a truly national scheme. The more evenly the whole benefits are distributed the smoother will the scheme work, and if this measure is to be enforced it cannot be too earnestly urged to provide the proper machinery in time by a greater attention and a more just appreciation of the details lacking than has hitherto been manifested.

The future position of British hospitals under the Bill is a subject of particular interest. British institutions depend for their maintenance wholly upon voluntary contributions, in distinction to continental hospitals, which are either supported by the State or municipality. In Germany, for instance, every hospital has a fixed tariff of charges varying with the class to which the patient belongs—that is to say, that a patient occupying a single room pays more than one content to share a room with another or even more persons, and all persons in a position to pay, and undergoing hospital treatment, have to comply with this rule. In the case of sick club patients, the club has to pay the hospital authorities for every patient undergoing treatment, payment being effected according to a fixed scale of charges varying according to the nature of the medical or surgical attendance required. The *per capita* rate of payment for hospital treatment in Germany amounted to 3*s.* 4*d.* in 1909; in all this item entailed a total expenditure of £2,085,325. Clause 17 of the British National Insurance Bill vaguely states that it shall be lawful for the clubs to subscribe to hospitals and other institutions in which the members receive treatment, but here again no basis of remuneration is even hinted at. Now, the Insurance Bill is a business proposition; employers and employees are forced to contribute towards the application of its provisions. On the other hand, voluntary contributions are solicited and generously given to keep up the hospitals. But as the Bill stands we may take it that the best possible medical attendance as far as hospital treatment is concerned is to be paid for out of the voluntary subscriptions of the general public, already called upon to participate in the cost of this scheme either in the capacity of employer, employee, or of a humble taxpayer. This is obviously grossly unfair, and in the first place will result in the withdrawal of subscriptions in many instances, and thus further jeopardise the existence of many institutions already in a precarious financial condition. In this case, too, a fixed basis of remuneration for patients undergoing hospital treatment would do much to place many of them on a sound foundation, and it is only necessary to apply the German figure of a payment of 3*s.* 4*d.* per head to our 14,700,000 insured to form an idea of the value of this annual contribution of £2,450,000 to institutions otherwise mainly dependent upon the public charity. The German scale of payment includes remuneration for food and attendance, medical or surgical treatment, and drugs, bandages, and dressings.

As regards the administration of the benefits, the British

Bill adopts a somewhat peculiar attitude. The insured must either become a member of a Friendly Society—i.e., of a voluntary association which has been found to deserve the appellation "approved," or if unsuccessful will be insured as a Post Office subscriber. When insurance was introduced in Germany there were no Friendly Societies equalling in importance the existing British associations, so that the few and unimportant societies could be treated as a *quantité négligeable*. The administration of the provisions of the German laws on insurance against sickness is entrusted solely to autonomous sick clubs, and beyond reserving to itself the right of supervision, the State does not interfere. These sick clubs are either local, formed to include the insured residing within a certain district or town, or establishments employing at least 50 hands are empowered to form their own sick club. In addition there exist a few associations resembling our Friendly Societies, and in some respects our trade unions, which recruit their members in all parts of the empire. A person liable to compulsory insurance and belonging to one of these is not required to enter the local club, as the German law allows all sick clubs to exist providing they comply with the legal requirements and grant their members the minimum benefits stipulated in the insurance laws. This is in marked contrast with the British point of view; in the first place, the existing Friendly Societies are required to adapt themselves to the new order of things, although in many instances their field of activity is by no means confined to the benefits set forth in the Bill, and, secondly, societies not approved of are not to be given an occasion of acting as administrators. The greatest hardship, however, will fall upon those workers for whom provision is already made, in several cases exceeding even the benefits to be enjoyed under the insurance scheme, as here they are to be compelled to comply with the letter of the law by joining some approved society or insuring through the Post Office. However, it stands to reason that the establishments which already voluntarily provide the funds for granting similar benefits will not feel disposed to pay in addition the contributions required by the new order of things, and thus we shall witness the peculiar picture of an avowedly beneficial measure bringing an actual loss to a section of its unwilling participants. To meet this objection, it would be well to permit the creation more freely of "approved" societies, without adopting the German plan which has led to the creation of no less than 23,279 sick clubs, with a total membership of 12,519,785. Latitude of this kind would enable many large establishments to continue their present satisfactory system of making proper and liberal provision for the care of their sick and disabled employees.

We should not lose sight of the fact that Great Britain is already in possession of a fully equipped organisation recently created to deal with another aspect of social reform—old age pensions. The introduction of the Insurance Bill will witness a second creation of posts for officials, and the question arises whether the machinery required to administer both statutes could not be united, in the interests of the taxpayer. It is significant that the Chancellor of the Exchequer himself estimates the cost of administration at a higher figure than is actually the case in official-ridden Germany; there the total outlay per head of the insured comes to 1*s*. 7*d* in the case of insurance against sickness, and to 1*s*. 8*d*. for insurance against invalidity, or a total expenditure of 3*s*. 3*d*. *per capita* (these two branches of insurance united in one measure in the British scheme form two distinct categories in Germany, each administered on different lines—invalidity insurance is under State, not under autonomous club, control); this still leaves a margin of 9*d*. to the good as compared with the 4*s*. it is assumed will be spent on administrative expenses in Great Britain. The cost of administration in Germany is recognised as being unduly high, and the new law foresees a considerable reduction by reducing the number of existing sick clubs, and limiting the staff of officials. Presumably the quantity of officials required in Germany will be balanced by the quality to be provided in our country—as far as the salary attached to the position is concerned. It is interesting to note that in many respects the administration of the British insurance scheme will be carried out on considerably more bureaucratic and possibly less equitable lines than is actually the case in Germany, as will appear from a brief consideration of the more important fundamental principles underlying both measures.

In Germany two distinct forms of insurance are in operation; the one makes provision for sickness, and the other includes disablement and old age pensions. Both forms are strictly contributory, but the organisation and administration of each differ materially. Insurance against sickness, already mentioned, is enforced without State interference, and also without State assistance. Self-governing sick clubs are formed to meet local or other requirements, and the management of the club is vested in a board consisting of representatives of the insured and of the employers, two-thirds of which are elected by the former and the remaining one-third by the latter. The contributions depend upon the wage-earner's salary, and the total levied may not exceed 4 per cent. of the worker's earnings. Of this total one-third is contributed by the employer and the rest by the insured. For this the worker is entitled to free medical attendance, free medicines, including any appliances required, and free hospital treatment, and every care is provided to restore him to health, even to the extent of sending him, if necessary, to undergo treatment at a health resort. These benefits extend for a period of 26 weeks, and during this time he is entitled to sick pay amounting to at least half of his daily wage, or, if he undergoes treatment in a hospital, his dependents draw an amount equal to half the allowance he would be receiving were he to undergo treatment at home. The income limit for compulsory insurance is £100 a year. No distinction is made either as regards contributions or benefits in the case of women, and as the contributions are graduated according to the worker's salary the employer of unskilled labour is not compelled to pay the difference out of his own pocket, as will be the case in England with workers earning less than 2*s*. 6*d*. a day. As the sick clubs are absolutely autonomous, beyond, of course, having to comply with the provisions of the law, it follows that they are able to dispose of their surplus finances untrammelled by outside considerations, and thus it is that certain clubs in a flourishing financial state are able to go beyond the limits prescribed. Naturally, in the case of the independent sick clubs having the character of British Friendly Societies, the board of managers is composed solely of representatives of the members, and membership of one of these recognised societies complies with the compulsory insurance clause, and renders it unnecessary for the member to reinsure in another club should he change his place of work. A new law, which has raised the income limit of the compulsorily insured to £125, divides the contribution into equal shares for employer and employee alike, and effects a corresponding change in the composition of the managing boards.

It must be confessed that the German system is more equitable than the British proposal. Why should a woman be penalised for her sex in being granted a lower rate of benefits? In practice there are really more cases of women requiring assistance in illness or invalidity than of men, to mention only the widows with families, who certainly outnumber the widowers. Again, the fixed rate of contribution is not in harmony with the principle expounded by the present Government of suiting the burden of taxation to the strength of the shoulders by which it must be borne; 4*d*. a week to a man earning £3 figures differently on the budget of a household with but 18*s*. to call its own.

The second branch of industrial insurance in Germany is also contributory, and includes invalidity and old age pensions. In this the contributions are borne in equal parts by both parties, the amount being again dependent upon the wage-earner's salary, which is in this case divided into five classes, the total weekly contribution rising from 1½*d*. on salaries under £17 10*s*. to 4½*d*. on salaries over £55. In this case, however, the management of the benefits and the whole organisation lie in the hands of the Government, which contributes towards the cost of administration and supplements each invalidity or old age pension granted by a State allowance of £2 10*s*. annually. These benefits, both based on compulsory contributions, are regulated by the length of time that the applicant had been insured and by the wage class to which he belongs; the amount of an invalidity pension may therefore be anything between £5 16*s*. and £22 10*s*. per annum, while the old age pension, which becomes operative at the age of 70, ranges from £5 10*s*. to £11 10*s*. In Great Britain invalidity insurance is included with sickness insurance in a single measure, while old age pensions form a direct charge upon the national revenue; the sum granted in both cases amounts uniformly to 5*s*. a week, or a fixed annual allowance of £13, irrespective of the

recipient's former salary or of the number of years during which he has contributed towards this benefit.

In comparing social legislation at home and abroad, the Briton is nowadays prone to belittle his own institutions, and to forget that no country possesses so highly developed and well organised a system of voluntary and humanitarian associations for rendering assistance in sickness as Great Britain. The importance, as well as the financial soundness of her friendly societies and their admirable work, are universally recognised as worthy of the highest praise; they are the outcome of voluntary thrift, and a striking symbol of the sound common sense inherent in the British working classes. As a number of these societies extend their field of activity even beyond providing for their members during sickness or incapacity, it would be a mistake to seriously imperil their existence, and instead of drawing distinctions likely to lead to the extinction of many excellent bodies in establishing too narrow limits for inclusion in the magic circle of approved societies, it would be well to grant an even greater degree of autonomy in the question of administering the benefits prescribed in the Bill. On the other hand, it is evident that the State should in this case reserve itself the right to take the necessary steps to ensure an equitable application of the minimum benefits to which the insured are entitled, and at the same time to safeguard the interests of those called upon to participate in the administration of these benefits by providing certain fair standards of remuneration for services rendered. A guarantee of some kind could be required to insure the solvency of each society, somewhat on German lines. In Germany every sick club is required to accumulate a reserve fund amounting to an average year's expenditure, based on the expenses incurred during the three previous years; in addition a portion of the yearly surplus must be set aside to form a special reserve fund, to meet unforeseen contingencies such as an unprecedented incidence of sickness, epidemics, &c. The example afforded by the latter country in divorcing sickness insurance from invalidity and old-age pensions might be adopted to some advantage, if only for the resulting saving in the cost of administration. In many respects the payment of an invalidity pension is merely a clerical matter, the claim itself is based on the doctor's verdict consequent on a period of sickness. Therefore, why not relieve the approved societies of this task, a burden new to many, as hitherto several societies have limited their work to providing only for their members during sickness, or during a fixed period of incapacity, and transfer the payment of disablement benefits to the machinery already provided for the payment of old age pensions. A step of this kind would do much to simplify the administration of the other portion of the benefits provided in the scheme, already rendered unnecessarily cumbersome by the creation of two distinct classes of the insured—members of approved societies and Post Office contributors. Administrative costs have a disagreeable tendency to rise, and as they represent a totally unproductive expenditure every precaution should be taken to keep this item within the lowest possible limits.

Much positive work will have to be accomplished before the National Insurance Bill will be an efficient working measure, capable of application in practice, and while rendering tribute to Germany for the assistance afforded, the framers of this measure would do well to further study many of the foundations upon which the continental schemes are based, and after due consideration of the different conditions prevailing in our country elaborate similar provisions suitable to our peculiar requirements. Until then it cannot be regarded in the light of a carefully prepared proposal; indeed, the widespread opposition voiced against certain of its provisions proves that not sufficient care was taken to obtain the unbiased opinion, as well as the active coöperation, of members of the various interests eventually affected. Instead of attempting to rush the measure through in its present unfinished state, regardless of the chaotic conditions which may result from its vague phraseology, it would have been better to treat the Bill merely as a draft, and before submitting it for discussion invite an expression of opinion on its contents. The actual Bill presented to Parliament would embody the essential points raised in an impartial criticism by the nation at large. This course has been adopted in Germany with all measures vitally affecting the interests of a large section of the population; surely this scheme is revolutionary enough to merit a thorough discussion before the forum of the people, for whose benefit it is primarily intended, and, a more important consideration, who will ultimately be called upon to make good any financial loss resulting from a too optimistic estimation of the relationship between income and expenditure as foreseen in the Bill. A measure wholly influenced by so uncertain a factor as human health, intended to remedy any deviation from its full enjoyment, should not be introduced without a thorough consideration of its financial as well as economic aspects. To illustrate the huge sums involved in a scheme of National Insurance the principal items from the balance sheet for 1909 (the latest available official statistics) of the German insurance against sickness are appended:—

Total number of persons insured			12,519,785
	£		Per person insured. s. d.
Contributions from employers	5,079,350	...	8 1½
Contributions from employees	11,448,180	...	18 3½
Cost of medical attendance	3,516,762	...	5 9
Cost of medicines, &c.	2,223,509	...	3 7
Sick pay to members and dependents ...	6,722,821	...	10 9¼
Payments to hospitals	2,085,325	...	3 4
Maternity grants	305,350	...	—
Cost of administration	961,306	...	1 7
Total reserve funds of all sick clubs	12,271,010	...	19 7½

MEDICINE AND THE LAW.

Hospital Witnesses and Fees at Inquests.

Dr. F. J. Waldo recently at an inquest held at the City coroner's court drew attention once more in forcible terms to the unjust provision in the Coroners Act, 1887, depriving of their fees witnesses who are medical officers of hospitals. In the case in question the medical witness asked to be relieved from waiting longer than was necessary in the coroner's court because he was due as a witness in the Clerkenwell county court. The position was thus created, and the coroner rightly called attention to it, that a medical man was compelled through being a member of the staff of a voluntary hospital to be a witness in two courts in the same day, a sufficiently onerous duty when the amount of time wasted is taken into account, as well as the importance of the issues as to which his evidence was probably essential. In one of the courts in question he would receive a fee for his attendance and in the other none. The injustice in connexion with inquests is an old cause of complaint, and the departmental committee which reported on the law relating to them in 1910 recommended that it should cease. No fresh legislation, however, has followed, but when any takes place it is probable that witnesses' fees at inquests will become the subject of rules to be made by the Home Secretary, and that fees for medical officers of institutions debarred from receiving them under the present law will be prescribed.

The Danger of Dogs not under Proper Control.

The prosecution of the owner of a dog for not keeping it under proper control, which was heard recently at the Portsmouth police court, although it failed through the inherent weakness of the case for the police, illustrates nevertheless the fact that many owners of dogs, not necessarily savage or dangerous, expose their neighbours to alarm and annoyance, and themselves incidentally to trouble and expense. The case in question had features almost of a humorous character. The animal was a Great Dane, stated to be of considerable value, and one of the chief witnesses against the character for tractability and gentleness which it had before enjoyed was a constable at whom, according to his story, it had barked and growled through the railings of a garden, where it was then safely confined, its mistress adding insult to injury by laughing at the policeman's nervousness. This incident by itself would hardly have constituted grounds for a summons, but upon another occasion a post-office messenger, when delivering a telegram at the house where the defendant lived, opened the garden gate and was the victim of an onslaught by the same dog, which evidently frightened him and possibly hurt him a little. The extent of his injuries proved to be the doubtful feature in the case. He claimed to have had some blue marks or bruises on his left arm when he returned to the post-office, and said that he was thereupon directed by "the authorities" to go to a neighbouring druggist for treatment. The druggist's assistant "cauterised the wound," that is to

say, he rubbed an ordinary caustic pencil over marks which, as the boy admitted, were not wounds at all, for there was no penetration of the skin, and whatever virtue there may have been in this operation the lad's father paid 6*d.* for its performance. We may mention here that a correspondent referring to this case informs us that druggists are very frequently asked to cauterise alleged dog-wounds, and appears to think that the marks thus produced are used to frighten dog-owners into paying compensation to avoid being made the victim of legal proceedings. Of this there was no suggestion in the case upon which we are commenting, but the druggist's assistant was not called as a witness, and as the father refused throughout to allow his son's arm to be examined by a medical man there was no evidence whatever beyond that of the boy to show whether the marks to which caustic had been applied were originally inflicted by the dog or not. In these circumstances the police may fairly be said to have instituted a prosecution upon evidence not likely to secure a conviction, and after several neighbours and friends of the defendant, including the postman, the milkman, and the dustman, had given evidence that they had found the dog quiet and harmless, the magistrates declined to make any order. They expressed, however, the opinion that the telegraph boy had told the truth, and although they attributed the dog's behaviour towards him to playfulness, they advised the defendant to control it better, lest upon some future complaint they might be obliged to deal differently with her. This appears to be an eminently sensible conclusion for the magistrates to have arrived at. If the lad's parent had been seeking to secure compensation for him in a civil court he would no doubt have called a medical witness to describe his injuries, or failing to do so would have been unable to prove that they existed. Perhaps, however, he was satisfied that the "cauterisation," at the cost of 6*d.*, of the bruises inflicted through the lad's coat was a sufficient precaution, and that "wounds" so easily and inexpensively dealt with were hardly serious enough to form the basis of litigation. However, although we may smile at the time and industry of a bench of magistrates being expended over the hearing of a charge of the nature indicated, we may also be allowed to endorse the observations made to the defendant as to the control of her dog, applying them generally rather than to her particular case. We need hardly say that the person who knows a dog to be savage towards strangers and allows it to be at large so that it may fly at passers-by on the highway, or at those who in the performance of their duties have to call at the owner's house, is guilty of a particularly cruel kind of negligence, for which he is likely to suffer financially sooner or later. There are such persons, and they are often allowed an undesirable amount of freedom from interference owing to the difficulty of proving that they know their dogs to be dangerous. There are, however, other owners who are also in their degree careless of the fear and annoyance that their animals cause, although they have no intention to neglect their duty towards their neighbours. These persons own dogs that cannot well be classed as dangerous, and in keeping them run little risk of allowing the infliction of serious injury on anyone. To take, for example, the animal made the subject of prosecution at Portsmouth. The Great Dane is known to most people as one of the largest dogs kept as pets, and its appearance is not calculated to reassure any nervous stranger with whom in play or otherwise it may desire to become familiar. As a matter of fact, but to speak generally, Great Danes are acknowledged by those acquainted with their habits to be very quiet, harmless dogs, not over-courageous or very intelligent, and certainly not, as a rule, likely to fly at anybody. Kept in confinement with insufficient exercise many big dogs become exuberantly demonstrative when released, and not everyone wishes to be the object of canine affection, still less of canine excitement and possibly of temporary irritability or nervousness. Moreover, not many people make a sufficient study of dogs' peculiarities to know whether they are savage or merely excited and over-friendly, and whether they belong to a treacherous or to a peaceful and naturally timid species. No one can expect such knowledge as this to be general or has any right to condemn those as foolish and cowardly who have not acquired it. Old ladies and children may be frightened with serious consequences by dogs who have no intention to bite them, and they have our sympathy when they are barked at and terrified by ill-disciplined animals whose owners neglect their duty to keep them in order, and thus show that they have no right to keep them at all. Offenders of this class are of both sexes, and an amount of toleration is extended to them that they do little to deserve, for the amount of trouble necessary to prevent a dog from becoming a source of annoyance is not great.

A Druggist and a Case of Poisoning.

At an inquest held recently at the City coroner's court by Dr. Waldo evidence of an incident of an unusual character was given. The deceased, a clerk in the office of a publisher and bookseller in Paternoster-row, informed the occupant of another office in the same building that he had taken spirit of salt, which he had no doubt done, and in consequence of which he soon afterwards died. This gentleman, Mr. Richard Greenacre, appears to have acted with humanity and promptitude, for he summoned police assistance and took the youth to a neighbouring druggist's shop where he asked for "an antidote," which was refused, the druggist saying apparently that it was not his duty to prescribe and that the deceased should be taken at once to a hospital. The policeman who was present asked definitely for a little chalk and water, and also meeting with refusal hurried next door, where he obtained some whitening which he used for the purpose indicated, immediately after which the electric ambulance arrived and conveyed the patient to St. Bartholomew's Hospital, where he died. Mr. A. W. Stott of St. Bartholomew's Hospital, who gave evidence, expressed the opinion with regard to what had taken place, that if chalk and water had been administered to the deceased promptly his life might possibly have been saved, but admitted that the druggist probably acted within his legal right in refusing to "prescribe." Whether it would have been a case of "prescribing" to supply something selected for the purpose by another does not seem to have been discussed. The jury expressed no opinion on the subject, but added to their verdict, which ascribed death to the self-administration of spirit of salt, a commendation of the action taken by the police constable. The druggist was placed in a difficult position, but he could have no reason to know that the policeman's diagnosis and treatment were correct.

REPORT FOR 1910 ON THE HEALTH OF MANCHESTER.

AMONG the various local contributions to the literature of Public Health the reports which reach us annually from the city of Manchester are exceptionally instructive and complete. Dealing as they do with the sanitary progress of one of our largest and most important industrial centres, these records possess a national in addition to their local interest, while they afford evidence of praiseworthy energy and public spirit on the part of the municipality. Sanitary reform in Manchester is of comparatively recent growth. By the grant of a charter in 1853 the City Corporation became responsible for the guardianship of the health of the citizens, and for the removal of the mass of adverse conditions which under the misrule of the borough reeve and constables had accumulated for years to the imminent danger of the public. A glance at the earlier reports of the first medical officer of health will suffice to show the nature and extent of the evils prevailing amidst the homes of the poor, and will give some idea of the magnitude of the task devolving on the health committee of the day for their abatement. Happily for Manchester, the reforms carried out by the corporation have generally been supported by public opinion, and under the guidance of successive medical officers of health the sanitary condition of the city has steadily improved down to the present time.

Vital Statistics.

The report before us contains the ordinary statistics respecting natality and mortality, from which it appears that the health of the community in 1910 was maintained at a high standard. The death-rate was estimated at only 15·9 per 1000 living, which is less than half the rate prevailing at the time when Manchester acquired the dignity of a city.

The subject of infantile mortality continues to receive particular attention in Manchester. "It has come to be felt," writes the medical officer (Dr. James Niven) "that if

a vigorous race is to be reared effort must be made to ensure that the care of the individual shall start at the commencement of life." Owing to the failure of the city council to adopt the Births Notification Act, Manchester is at a disadvantage in its efforts to regulate the care of infants from the earliest days of life; nevertheless, substantial progress is being achieved by the efforts of the local Midwives Supervision Committee and the Infant Life Preservation Subcommittee. At present infantile mortality is at the rate of 132 per 1000 births, against 187 per 1000, the average rate in 1891–95.

Enteric Fever.

Among topics of more than local concern Dr. Niven directs particular attention to the behaviour of enteric fever and tuberculous phthisis, both of which diseases have always caused high mortality in the city. With respect to the death-rate of enteric fever in Manchester we learn that it is higher than in England and Wales generally, and is more than twice the rate prevailing in London. And, what is of even greater importance, the mortality has not decreased so rapidly in Manchester as it has done elsewhere in this country. Possibly this is due to the persistence of some local cause, such as the consumption of infected shell-fish. The etiology of enteric fever has long been systematically studied in Manchester, and quite recently a connexion has been suspected between the ingestion of ice-cream and excessive incidence of the disease, but in the absence of exact data it has not as yet been possible to indicate the actual cause or causes of its local prevalence.

Tuberculosis.

Of all causes of death tuberculous diseases are economically the most important. In Manchester these diseases in the aggregate account for one-third of the total mortality in the span of life intervening between the fifteenth and the forty-fifth year. In the year 1910 tuberculous phthisis caused a mortality of 14·9 per 10,000 of the population, showing a reduction on the rate obtaining in 1881–85 equal to 38 per cent. From diseases of the lung other than phthisis there has also been a reduction equal to 31 per cent., so that there is no doubt as to the reality of the life saving in respect of phthisis, which is represented by a fall in the recorded death-rate from 24·2 per 10,000 in that quinquennium to 14·9 in the year under notice. The death-rate from tuberculous peritonitis and tabes mesenterica has declined since 1881–90 by 57 per cent. Other diseases of the tuberculous class have likewise declined, but in a less degree.

For many years past the campaign against tuberculosis has been prosecuted in Manchester with remarkable vigour, and recently with increased success. It will be remembered that under the Public Health (Tuberculosis) Regulations of 1908, by which notification of phthisis was introduced throughout the country, all cases of pulmonary tuberculosis occurring in Poor-law medical practice must be notified within 48 hours to the medical officer of health. Under the further regulations of the following year respecting tuberculosis in hospitals, all cases of phthisis coming under treatment in hospitals and dispensaries supported by charity must similarly be notified to the same officer. By these means the majority of phthisical cases, including those of paupers, are now compulsorily notifiable in Manchester.

The administrative measures of control now carried out in the city are set forth in this report. They include domiciliary visitation by inspectors or health visitors; the giving of advice and assistance by way of appliances; the disinfection of houses and clothing; the distribution of cautionary circulars concerning the disposal of sputa and the avoidance of unnecessary contact between the sick and the healthy. Dr. Niven holds that the provision of sanatoriums is only a part of the campaign against tuberculosis, which, in order to be effectual, must be supplemented by other preventive measures rendered possible under general notification. Public feeling has grown rapidly during the last year; and as a result the South Manchester guardians have purchased an estate of 285 acres in Wales for the treatment of their consumptive cases. Moreover, the Manchester education authority is about to establish, on an estate recently presented for the purpose, a school for the treatment of incipient cases of phthisis; and, further, a scheme of definite preventive action against tuberculosis has already been approved by the sanitary committee, and after sanction by the city council will probably be carried out at no distant date.

MEDICINE IN THE ENCYCLOPÆDIA BRITANNICA.

VII.[1]—MEDICINE.—SURGERY.—NEUROPATHOLOGY.

WE continue below our series of articles upon the medical aspects of the new edition of the Encyclopædia Britannica. Our object has been to furnish a brief review and commentary upon the various articles in the Encyclopædia which deal with medical topics, rather indicating what has been the treatment of the subjects in the Encyclopædia than suggesting that this, that, or the other might have been added or omitted. For the scope of an article in an encyclopædia must always be to large extent the matter of definite arrangement between editor and contributor. The articles on medicine and on surgery as a whole, which we have to consider among others in the issue of the later volumes, are supplementary to a number of articles scattered throughout the volume which discuss the causes, symptoms, and treatment of individual diseases.

Medicine.

The article Medicine in Vol. XVIII. of the present edition is divided into two portions. The first, which deals with the subject from the earliest times down to the year 1840, is the work of that learned historian of medicine, the late Dr. J. F. Payne, and is a revised reprint of the article written by him for former editions. The second, which deals with modern progress, is from the pen of Sir Clifford Allbutt. Dr. Payne's masterly survey of ancient and of early modern medicine has only to be well known to be rightly appreciated. To anyone who wishes to obtain a comprehensive and accurate knowledge of the history, the mistakes, the successes, and the progress of the medical profession no better short manual can be recommended than this article, although in saying this we by no means wish to minimise the value of longer treatises, such as Freind's "History of Medicine," Withington's "History of Medicine from the Earliest Times," or the works of Pagel, Le Clerc, or Neuberger.

Sir T. Clifford Allbutt, whose contribution recounts the handing on of the torch throughout the period extending from 1840 to the present day, writes, it seems to us, with acute consciousness of the vastness of his subject. And despite his great equipment he may well be so, for the discoveries, the inventions of new methods, and the modern application of old ones which have come to the fore during the past forty years alone have revolutionised both our conceptions of many diseases and our theories of treatment. And yet, with all this, the marked character of modern medicine may be said to be unity; unity in that disease is coming to be recognised as the result of varying forces operating upon a complex organism, which although it responds in apparently varying ways, yet is using fundamentally the same methods of defence, diversified, however, in accordance with the method of attack. It therefore follows that, as Sir Clifford Allbutt well says, "One of the chief lessons of the latter moiety of the nineteenth century was the unity of medicine in all its branches—a unity strengthened rather than weakened by special researches, such as those into 'medical' and 'surgical' pathology, which are daily making more manifest the absurdity of the distinction. Surgeons, physicians, oculists, laryngologists, gynæcologists, neurologists, and the rest, all are working in allotments of the same field, and combining to a common harvest." And again: "Medicine and surgery are but two aspects of one art; Pasteur shed light on both surgery and medicine, and when Lister, his disciple, penetrated into the secrets of wound fevers and septicæmia he illumined surgery and medicine alike, and, in the one sphere as in the other, coöperated in the destruction of the idea of 'essential fevers' and of inflammation as an 'entity.'"

Sir Clifford Allbutt gives a necessarily superficial review of the progress made in all departments of medicine. Omissions can of course be found. Thus he says nothing about serum therapy, and hardly anything of the principles of immunity. Again, in the section upon methods of investigation no mention is made of the various endoscopes,

[1] Articles I., II., III., IV., V., and VI. were published in THE LANCET of Feb. 25th (p. 530), March 4th (p. 609), 11th (p. 692), and 25th (p. 828), and April 1st (p. 897) and 15th (p. 1026), 1911, respectively.

such as the cystoscope or bronchoscope, while in his remarks upon the ophthalmoscope he is perhaps over-modest. For though hardly anyone has done more than he himself to link up ophthalmoscopy and medicine, he makes no allusion to his own work in this field. But taken as a whole Sir Clifford Allbutt's contribution is a worthy sequel to that of Dr. Payne, and with such a subject to write upon whatever limitations an author laid down for himself some one would be found to say that he had been too inclusive or too exclusive.

Surgery.

The article on Surgery, like that on Medicine, is divided into two sections contributed by different writers. The historical section is by Dr. C. Creighton, and that on modern practice by Mr. Edmund Owen. Of these the first portion is by far the longer, for, unlike medicine, the progress in surgery which has been made during the last forty years, great and widespreading though its effects have been, is due almost entirely to one thing—namely, Listerism.

Dr. Creighton's historical summary is of extreme interest and should be read in company with that of Dr. Payne on the medical side by all practitioners who wish for a knowledge of the history of their profession. An interesting précis is given of Susruta's practice of surgery, though as the date assigned to the work attributed to him ranges "as widely as 500 years on each side of the Christian era" the question as to whether it is one of the earliest works of the Eastern branch of the European stock on surgery must be held, as Dr. Creighton remarks, insoluble. Chinese surgery follows, and then Egyptian. Passing to Western Asia and Greece a reference is made to Homeric surgery, and an account is given of Hippocratic practice. Celsus and Galen follow and ancient surgery is brought to a close with Paulus Aegineta (A.D. 650). Throughout the dark ages—i.e., during the next 500 years—surgery was mainly kept alive by the Arabs and the Jews, although the school of Salerno sustained Hippocratic and Galenic tradition from the tenth century nearly to the thirteenth, Montpellier being the centre of Arabic medicine in Europe. In his review of mediæval surgeons Dr. Creighton curiously enough omits any mention of John Arderne (b. 1307), the well-known English surgeon, and the first in this country at any rate who acted on the sound principle that meddlesome surgery is bad surgery. Passing on to Paracelsus (1493–1541) and Paré (1510–1590) he allows full credit to both for their reforms in surgical practice, but in one place he gives the latter more than it would seem that he deserves. Dr. Creighton says: "Instead of treating gunshot wounds with hot oil according to the practice of the day, he had the temerity to trust to a simple bandage ....." If we remember rightly Paré's temerity arose from the fact that on one occasion his supply of hot oil ran out, and he had to trust to a simple dressing, on account of which he records that he passed a most uneasy night. But on finding on the following morning that his patients, over whose enforced neglect he has been making himself miserable, were much better than those who had been treated with the hot oil, he was led to substitute in future a simple dressing in the place of the irritating application. Dr. Creighton concludes his section, which may be taken to end with the middle of the nineteenth century, with a *résumé* of improvements in surgery during that period. Among others he mentions the introduction, or possibly revival, of lithotrity, but without referring to the improvement in this operation, introduced by Bigelow, by removing the débris at the time of crushing.

Mr. Edmund Owen's section upon modern surgery is, as might be expected, almost entirely confined to the rise and progress of Listerism and the gradual evolution of antisepticism into asepticism. It is an excellent essay. A short account of Bier's passive congestion treatment is given, and the article concludes with some wise words on the X rays and radium. Mr. Owen bids his readers remember that too much is not to be expected from these two forms of energy.

Neuropathology.

The article on Neuropathology, by Dr. F. W. Mott, extends to ten pages and forms, so far as such a condensed account can, an admirable introduction to this subject. A large proportion of the article is devoted to the causation of changes in the nervous system. Dr. Mott's classification of causes into "internal" and "external" has the difficulty of causing some confusion between those external or internal to the body and those external or internal to the nervous system only. A short space has been given to the numerous and important varieties of auto-intoxication of the nervous system, but all the more important conditions are glanced at, and a summary in a few words is supplied of the most recent theories. The effects of muscle-fatigue products, such as sarcolactic acid, the results of excess of uric acid, oxaluria, and glycosuria, are all noted, as well as the connexion between the graver forms of anæmia and degenerative changes in the spinal cord. To the clinician the importance of nervous symptoms indicating auto-intoxication is very great.

Incomparably the most interesting section of the article is that on poisons produced by micro-organisms, but it is short, space having been found for recent work on protozoan disease to the exclusion of other well-known conditions. The nervous sequelæ of the acute infective fevers are dismissed with an enumeration of their names, while not even that recognition, as far as we could see, is given to acute anterior poliomyelitis.

The importance of the protozoa in the production of disease in general is becoming yearly greater, and in no sphere of pathology more than in that of the nervous system. The more chronic protozoal invasions tend to produce profound changes in the nervous system characterised broadly by a formative hyperplasia of the fixed cell tissues, whether endothelial or epithelial, and there is a close similarity in the defensive reaction of the tissues to all forms of infection by protozoa. There is therefore a great advantage in studying in one article, such as that before us, the effects of the trypanosomata which have been most studied, syphilis (spirochæta pallida), sleeping sickness (trypanosoma gambiense), dourine, or *mal de coit* of horses; and to these Dr. Mott adds rabies, on the assumption that the "bodies" or cells recently described by Negri indicate a stage in the growth of a protozoon taking place within the nerve cells, comparable to the endocellular growth of the hæmatozoon malariæ within the red blood corpuscles of its host. The present position of the pathology of rabies is admirably indicated, but it is doubtful if a pathological question still *sub judice* should be introduced into an article in such a general work. It took 20 years to build up a complete knowledge of the life-history of the malarial parasite, and the general public might well wait for a few years for complete knowledge on that of rabies and variola.

Another field of recent exploration is very well surveyed. We are given here an excellent summary of the huge mass of investigation recently carried out on the cerebro-spinal fluid, which is proving of value in the diagnosis of cerebro-spinal meningitis and sleeping sickness.

Dr. Mott has attempted a difficult task in condensing into a few lines the distinction between true syphilitic lesions and the premature degenerations of nerve substance commonly known as parasyphilitic. The former are the result of the reaction, protective in character, of the tissues to the living virus, the latter are due to a bio-chemical change in the body induced by this reaction. In true syphilis there may be nervous symptoms of the gravest kind, but they are focal, selective, or limited in area; the parasyphilitic affections appear to be due to destruction of neural elements. Such breakdown of neurons is characterised, as Dr. Mott remarks, by the production of "lipoid" substances, but no hint is given as to the nature of "lipoid substances," though the author considered it necessary to explain their nature in his admirable paper on Syphilis of the Nervous System[2] before a specially informed audience. They are found in all animal and vegetable cells and fall into three groups: (1) the fatty group, such as cholesterin; (2) the nitrogenous group, such as kerasin; and (3) the lecithin group containing phosphorus and nitrogen.

It is essential in a general article to handle such a thorny question as chronic alcoholic poisoning with judgment, knowledge, and care; all three are displayed. While the importance of alcohol as a frequent cause of nervous degeneration is allowed, it is here recognised that in only 10 per cent. of the cases in the London Asylums was it the direct cause, though 20 per cent. were admitted with a history of alcoholism. Cirrhosis of the liver is so rare in asylum cases that Jane Cakebread was the only example found. This rarity of cirrhosis indicates that lapse from temperance has

[2] Proceedings of the Royal Society of Medicine, Jan. 27th, 1910.

not been of long duration in such mental cases, and is an indication of the final breakdown rather than its cause.

There is no new information to be found on the important subject of focal injuries to the brain, such as embolism, hæmorrhage, &c., but an admirably lucid sketch is given of such conditions, and of the variations in symptoms produced by variations in locality. Some excellent photographs of pathological states of the brain are appended.

The section dealing with the Microscopical Changes in Degeneration of the Neurone begins with a survey of the trophic dependence of the nerve fibre upon its cell of origin established by A. V. Waller's experiments made about 1850, and concludes by an interesting reference to the researches of the author, in conjunction with Professor W. D. Halliburton, into the chemical changes which occur during the degeneration of peripheral nerves after section.

HOSPITAL DINNERS.

St. Bartholomew's Hospital.—The annual old students' dinner was held this year as usual in the beautiful great hall of the hospital, and over 175 past and present members and guests assembled under the chairmanship of Mr. W. H. H. Jessop, senior ophthalmic surgeon to the hospital, on Oct. 2nd. Amongst those present were the treasurer, Lord Sandhurst; Sir William Church, the Presidents of the Royal Colleges of Physicians of London and Surgeons of England, the Vice-Chancellor of the University of London, the Master of the Society of Apothecaries, Sir T. Clifford Allbutt, Professor Howard Marsh, Sir Malcolm Morris, Sir James Porter, Sir William Gubbins, Sir Francis Champneys, Sir Lauder Brunton, Sir Anthony Bowlby, and the treasurer of the Foundling Hospital. The chairman, in proposing the toast of "The Hospital and Medical School," appealed for an endowment fund to ensure a living wage for lecturers. The year 1881 was the high-water-mark of prosperity of the school. Since then many new departments have been created, and work has increased in all directions, but the income has diminished. There is now a prospect that a charter for the medical school will be approved by the governors and the Privy Council, which will enable reversions to be left for the endowment of teaching and research. Mr. Jessop offered congratulations to the seven old students who have received Coronation honours, and concluded with feeling references to the great loss which the hospital had sustained by the deaths of Mr. Henry Power and Dr. Samuel Gee. Lord Sandhurst responded in a short and interesting speech, in which he touched on the National Insurance Bill and the present heavy demands upon hospital resources. Dr. Norman Moore proposed the toast of "The Guests" in the learned, witty, and graceful manner of which he is a master, and Sir William Collins, in his reply, insisted that medical men should now take an active part in public affairs. The chairman's health was proposed by Mr. W. Bruce Clarke.

Middlesex Hospital.—The annual dinner took place at the Trocadero Restaurant on Oct. 2nd. The chair was occupied by Dr. F. J. Wethered. Among those present were Prince Alexander of Teck, Sir Richard Douglas Powell, Sir James Kingston Fowler, Sir Alfred Pearce Gould, Fleet-Surgeon R. Hill, R.N., Mr. James Boyton, M.P., the Mayor of Marylebone, Mr. Andrew Clark, and Mr. J. Bland-Sutton. In proposing the toast of "The Hospital and Medical School," the chairman referred feelingly to the death of Prince Francis of Teck, and eulogised the personal service rendered by him to the hospital. A large sum, he said, had been obtained through the Prince Francis of Teck Memorial Fund, but the board of the hospital was still faced by a lack of money. Prince Francis's place had been taken by his brother, Prince Alexander of Teck. The chairman congratulated Sir Alfred Pearce Gould and Sir James Kingston Fowler on their new honours. He announced that the Queen had promised to open the new cancer wing on her return from India. The new research department had been taken possession of by Dr. Lazarus-Barlow and his colleagues. A new medical ward of 15 beds was to be made by certain alterations, and to this Queen Alexandra had consented to give her name. New out-patient rooms were badly needed. Prince Alexander of Teck, in responding to the toast, thanked the chairman for his kind references to Prince Francis, and said that whatever his brother had done had been entirely actuated by a sense of public duty and a desire to be of service to his fellow creatures. He referred to the proposed scheme, which had been accepted by the weekly board and approved by King Edward's Fund, of establishing special wards for diseases of the skin, eye, and throat, and said there was every probability of this ideal being realised next year. He had lately seen enough to convince him of the value of the connexion of medical schools with hospitals even to the patients themselves, through the progress they maintained and the stimulus they afforded. A new site must be found for the out-patient department, and if some donor would provide £50,000 he would guarantee as fine an out-patient department as could be found anywhere. While the hospital expenditure last year had been exceptionally heavy the improved sanitation that had resulted from it was a permanent gain. Dr. H. Campbell Thomson, Fleet-Surgeon Hill, and Mr. E. L. Pearce Gould also replied. The Chairman of the council, in proposing a vote of thanks to Dr. Comyns Berkeley, the lecturer of the day, urged a more efficient means of communication between the weekly board and the medical staff. Sir James Kingston Fowler proposed the toast of "The Guests," and regretted the absence of Commendatore Marconi, who was to have replied. Mr. Debenham, in replying, referred to his long family connexion with the hospital. Mr. Boyton, M.P. for East Marylebone, said that in the discussion on the Insurance Bill in Parliament he had pointed out that his constituency contained about 1000 medical men. For the most part they were not of the class whose own personal interests would be affected by the Bill, so that their criticisms could not be accused of self-interest, but must be ascribed to a keen sense of what was due to their profession. Dr. D. R. C. Shepherd proposed the toast of "The Chairman," who replied. The following message was read in reply to a wireless sent to the King from the hospital in the afternoon: "Please convey to the chairman, governors, staff, and students of the Middlesex Hospital the sincere thanks of the King, Patron of the hospital, for their kind message of greeting on the occasion of the seventy-seventh anniversary of the foundation of their medical school at the hospital." In the course of the evening some excellent vocal and instrumental music was supplied.

University College Hospital.—The dinner for old and present students of the hospital was held at the Imperial Restaurant on Oct. 2nd, with Sir William Allchin in the chair. Over 120 sat down to dinner. After the loyal toasts, Sir William Allchin proposed "The Prosperity of the Medical School," and in an eloquent and thoughtful speech compared the rôle of the physician of the time of Sir William Jenner, when he was a student at the hospital, with that of the present day. The Dean, Mr. Raymond Johnson, replied in a lighter vein, expressing the gratification that all must feel at the very large increase of entries, and commending to the notice of old and present students the hospital magazine and the endowment of a bed in the hospital. The students have already collected £830 of the £1000 required for this excellent object. The speeches were interspersed with songs and instrumental music of exceptional merit.

Charing Cross Hospital.—The dinner to the past and present students was held in the evening of Oct. 2nd, in the new Adelaide Hall, at Gatti's Restaurant, opposite the hospital, under the chairmanship of Dr. Cuthbert Lockyer. The dinner was largely attended. The toast of "The Hospital and School" was proposed by the chairman, and in responding to it, the Dean, Dr. William Hunter, said that he had just received, by special messenger, a letter from H.R.H. Princess Louise (Duchess of Argyll), the President of the hospital, who had opened the session and distributed the prizes in the afternoon, conveying her congratulations to the students on the reorganisation of their school, which will in every way give them greater facility and comfort to carry on their studies and research. Her Royal Highness anticipated that the zeal and enthusiasm shown by the dean and his colleagues in bringing the college to its present state of efficiency would stimulate the students to an even keener desire for success and a wish to send out the ablest men who would leave their mark on the world in the future, bringing lasting fame to the college. She wished the public would realise the great and difficult work of keeping up the efficiency with inadequate means. If they would reflect that it was all for

the benefit of the general public they would be ready to help.

St. George's Hospital.—The annual dinner of past and present students of St. George's Hospital was held at Princes Restaurant under the chairmanship of Sir Isambard Owen, Vice-Chancellor of the University of Bristol, and formerly physician to the hospital and for many years dean of the school. There was a good attendance both of the present medical staff and teachers and of the past and present students, while among the principal guests were Dr. H. A. Miers, D.Sc., Principal of the University of London, who had previously delivered the introductory address, and Professor W. D. Halliburton. Sir Isambard Owen, after the usual loyal toasts, outlined in an interesting speech the growing importance of universities to communities because of the promotion in them of the growth of the corporate spirit, and while he indicated that this spirit had always been present in the medical school at St. George's Hospital, he hoped that it would soon become manifest in all the students of the University of London. He concluded by expressing his conviction that the University of London would in the end become organised to fill the great future which it obviously should have before it. The text of Sir Isambard Owen's remarks was to wish prosperity to St. George's Hospital, and in reply Mr. A. W. West, the treasurer of the hospital, in a vigorous speech, deplored the divorce of medical schools from hospitals and criticised the action of the King Edward's Hospital Fund for London arising thereout. He spoke in a gloomy vein of the probable effects upon voluntary hospitals of the working of the National Insurance Bill, and appeared to express the sentiment of the company when he described the Bill as a most dangerous threat to the voluntary principle. Mr. H. S. Pendlebury having also replied, Dr. E. I. Spriggs proposed the health of Principal Miers in the character of the Orator of the Day. Professor Miers, in an interesting and happy speech, referred to his student days when he was a frequent visitor to St. George's Hospital, while with reference to his present charge, the University of London, he described it as possibly suffering from too much reform. Dr. Llewellyn Powell, anæsthetist to the hospital, speaking as a representative "of the most important branch of medicine," was delightfully humorous in a speech proposing the toast of "The Past and Present Students," replies to which were entrusted to Mr. C. M. Fegen and Mr. Tindall Atkinson. Mr. Clinton Dent proposed the toast of "The Chairman," whose career had for many years been run side by side with his own, as they had been students together at Cambridge, had sat for examinations simultaneously, and for many years worked together on the staff of St. George's Hospital. Sir Isambard Owen having replied, the proceedings terminated.

St. Thomas's Hospital.—The annual dinner of the past and present students was held on Oct. 3rd at the Hotel Cecil and was largely attended. Among those present were Sir Thomas Crosby, the Lord Mayor-elect, Sir Thomas Barlow, and Sir Anthony Bowlby. The chair was taken by Mr. G. H. Makins, C.B. In proposing the toast of "The Hospital and Medical School," Mr. Makins gave some interesting reminiscences extending over the past 40 years, and referred to the changes in the hospital that had taken place during his time. His reminiscences of the very remarkable staff of his time, containing sketches of Dr. Peacock, Dr. Bristowe, Dr. Ord, Dr. J. Harley, Dr. Murchison, Dr. Clapton, Sir John Simon, Mr. Sydney Jones, Mr. Croft, Sir William Mac Cormac and Mr. Mason, were delivered in a humorous vein that caused great amusement. He considered the work of the hospital and school for the past 40 years thoroughly worthy, and he referred with pride to the fact that the next Lord Mayor came from St. Thomas's. The toast was suitably acknowledged by the treasurer, Mr. Wainwright, and the Dean, Dr. H. G. Turney. Referring to Sir Thomas Crosby, whom he designated as the Grand Old Man of the dinner, Dr. Turney said that he was first medical Lord Mayor of London. On turning back to the school records for the year 1851, he found that Sir Thomas Crosby had in that year taken the several prizes for physiology, descriptive anatomy, medicine, and surgery. In 1852 he had again taken the physiology prize, and had added thereto those for forensic medicine, practical chemistry, comparative anatomy, and the Cheselden bronze medal for surgery and surgical anatomy. Others who had gained distinctions were Inspector-General Sir T. D. Gimlette; Sir H. B. Donkin; Acting Surgeon S. W. Grimslade, gold medallist at Haslar; Professor Leathes and Professor W. E. Dixon, new Fellows of the Royal Society; Dr. W. W. C. Topley, Murchison scholar and physiologist to Charing Cross Hospital; Dr. S. J. Sharkey, medical referee to the Treasury; and Mr. A. Lawson, President of the Ophthalmological Society of the United Kingdom. He also commended the cricket club and congratulated the school on securing the Inter-Hospital Sports Shield. Dr. T. D. Acland proposed the toast of "The Chairman," which was suitably acknowledged by Mr. Makins. Mr. J. H. Fisher proposed "The Health of the Guests," which was acknowledged by Sir Thomas Barlow in a manner that evoked great applause.

London Hospital.—The old students' dinner was held on Oct. 3rd at the Hotel Cecil under the chairmanship of Mr. Douro Hoare, who was supported, among others, by Mr. Otto Beit, Sir Edward Mann, Sir Frederic Eve, Sir Frederic Hewitt, Dr. Percy Kidd, and Mr. E. Hurry Fenwick. The chairman spoke of the work of the hospital and medical school, and announced with satisfaction the inauguration that day of a dental school in connexion with the London Hospital. His sharp criticism of the National Insurance Bill was endorsed by the audience. He regarded the scheme as a step towards the State control of hospitals. Mr. Fenwick proposed the health of the guests, and Sir Edward Mann and Mr. Otto Beit replied, while the toast of "The Chairman" was entrusted to Sir Frederic Eve, who deplored the general falling off in the numbers of medical students throughout the country.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 77 of the largest English towns, having an estimated population of 16,157,797 persons in the middle of this year, 7528 births and 4804 deaths were registered during the week ending Sept. 30th. The annual rate of mortality in these towns, which had steadily decreased from 21·2 to 17·0 in the five preceding weeks, further declined to 15·5 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the annual death-rate in these towns averaged 16·6 per 1000, while in London during the same period the mean annual death-rate did not exceed 15·5 per 1000. The recorded annual death-rates in the 77 towns last week ranged from 5·7 in King's Norton, 8·0 in Hornsey, 8·3 in Devonport, and 8·9 in Croydon, to 22·5 in Dewsbury, 24·9 in Bury, 25·8 in St. Helens, and 28·3 in Walsall. The 4804 deaths from all causes in the 77 towns last week were no fewer than 462 less than the number returned in the previous week, and included 1056 which were referred to the principal epidemic diseases, against numbers decreasing from 2900 to 1559 in the five preceding weeks. Of these 1056 deaths from the principal epidemic diseases, 886 resulted from infantile diarrhœa, 51 from whooping-cough, 46 from diphtheria, 35 from enteric fever, 19 from measles, and 19 from scarlet fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 3·4 per 1000 against 5·5 and 5·0 in the two preceding weeks. The deaths of infants under 2 years of age attributed to diarrhœal diseases, which had steadily decreased from 2714 to 1377 in the five preceding weeks, further fell to 886 last week, and caused the highest annual death-rates of 6·8 in Tynemouth, 6·5 in West Hartlepool, 6·6 in Smethwick, 6·8 in Walsall, and 7·5 in Rotherham. The deaths referred to whooping-cough, which had been 55 and 61 in the two preceding weeks, fell to 51 last week, and included 13 in London, 6 in Sunderland, and 3 in Walsall. The fatal cases of diphtheria, which had been 40, 27, and 42 in the three preceding weeks, rose last week to 46; 16 deaths occurred in London and its suburban districts, 4 in Newcastle-on-Tyne, and 3 in Portsmouth. The deaths attributed to enteric fever, which had been 41 and 40 in the two preceding weeks, fell last week to 35, and included 5 in London, 4 in Liverpool, 4 in Hull, 3 in Bristol, and 3 in Bolton. The deaths referred to measles, which had decreased from 59 to 26 in the six preceding weeks, further fell last week to 19, which was the lowest number registered in any week of the current year; 4 deaths were recorded in London, 3 in Manchester, and 2 each in Stoke-on-

Trent, Wolverhampton, and Bolton. The 19 fatal cases of scarlet fever were 6 in excess of the number registered in each of the two preceding weeks, and included 4 in London, 3 in Liverpool, and 2 in Stoke-on-Trent. The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had increased from 1327 to 1532 in the four preceding weeks, had further risen to 1666 on Saturday last; 333 new cases of this disease were admitted to these hospitals during the week, against 217, 264, and 240 in the three preceding weeks. These hospitals also contained on Saturday last 894 cases of diphtheria, 226 of whooping-cough, 157 of enteric fever, and 83 of measles, but not one of small-pox. The 1349 deaths from all causes in London last week were 7 fewer than the number in the previous week, and included 149 which were referred to diseases of the respiratory system, against 97 and 113 in the two preceding weeks. The deaths attributed to different forms of violence in the 77 towns, which had been 169 and 160 in the two previous weeks, further fell to 134 last week, and 301 inquest cases were registered. The causes of 30, or 0·6 per cent., of the deaths registered in the 77 towns during the week under notice were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified last week in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, Portsmouth, and in 57 other smaller towns. The 30 uncertified causes of death last week included 9 in Liverpool, 5 in Birmingham, 3 in Gateshead, and 2 each in St. Helens, Preston, Sheffield, and South Shields.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns, having an estimated population of 1,710,291 persons in the middle of this year, 798 births and 499 deaths were registered during the week ending Sept. 30th. The annual rate of mortality in these towns, which had been 16·4, 15·7, and 16·7 per 1000 in the three preceding weeks, declined to 15·2 in the week under notice. During the 13 weeks of the quarter just ended the annual death-rate in these Scotch towns averaged 15·2 per 1000, and was 1·4 per 1000 below the mean rate during the same period in the 77 large English towns. The annual death-rates in the Scotch towns last week ranged from 13·0 in Paisley and 13·4 in Aberdeen to 17·2 in Edinburgh and 19·0 in Dundee. The 499 deaths from all causes in the eight towns were 48 fewer than the number in the previous week, and included 78 which were referred to the principal epidemic diseases, against numbers decreasing from 134 to 95 in the four preceding weeks; of these 78 deaths, 52 resulted from diarrhœa, 13 from diphtheria, 8 from whooping-cough, 3 from scarlet fever, 1 from enteric fever, and 1 from measles, but not one from small-pox. The mean annual death-rate from these epidemic diseases in the eight towns last week was equal to 2·4 per 1000, and was 1·0 below the death-rate from the same diseases in the 77 large English towns. The deaths attributed to diarrhœal diseases, which had declined from 113 to 65 in the four preceding weeks, further fell last week to 52 and included 47 of infants under two years of age; 25 deaths were recorded in Glasgow, 9 in Dundee, 7 in Edinburgh, and 4 in Greenock. The deaths referred to diphtheria, which had been 10 and 5 in the two preceding weeks, rose to 13 last week, and included 5 in Glasgow and 2 each in Edinburgh, Aberdeen, and Perth. The 8 fatal cases of whooping-cough were 4 fewer than the number in the previous week; 3 deaths were recorded in Glasgow and 3 in Edinburgh. The 3 deaths referred to scarlet fever were equal to the average in the three preceding weeks, and included 2 in Glasgow and 1 in Edinburgh. The fatal cases of measles and enteric fever were registered in Glasgow. The deaths referred to diseases of the respiratory system, which had been 41 and 57 in the two preceding weeks, further rose to 62 last week, and were 1 in excess of the number in the corresponding week of last year. Of the 499 deaths from all causes in the eight towns last week, 181, or 36 per cent., were recorded in public institutions, and 14 deaths were attributed to different forms of violence. The causes of 9, or 1·8 per cent., of the deaths in the eight towns last week were not certified; in the 77 English towns the proportion of uncertified causes last week did not exceed 0·6 per cent.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,149,495 persons in the middle of this year, 669 births and 396 deaths were registered during the week ending Sept. 30th. The annual rate of mortality in these towns, which had been 19·4 and 20·4 in the two preceding weeks, declined to 18·0 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the annual death-rate in these Irish towns averaged 18·3 per 1000; in the 77 English towns during the same period the mean annual death-rate was equal to 16·6, whilst in the eight Scotch towns it did not exceed 15·2 per 1000. The annual death-rate last week was equal to 19·9 in Dublin (against 15·6 in London), 16·9 in Belfast, 22·5 in Cork, 19·2 in Londonderry, 23·1 in Limerick, and 11·4 in Waterford; whilst in the 16 smallest of these Irish towns the mean annual death-rate did not exceed 13·6 per 1000. The 396 deaths from all causes in the 22 Irish towns were 48 fewer than the number returned in the previous week, and included 95 which were referred to the principal epidemic diseases, against 134 and 122 in the two previous weeks; of these 95 deaths, 81 resulted from diarrhœal diseases, 6 from enteric fever, 4 from scarlet fever, 2 from whooping-cough, and 2 from diphtheria, but not one from measles or from small-pox. These 95 deaths from the principal epidemic diseases were equal to an annual death-rate of 4·3 per 1000. The mean rate from the same diseases in the 77 English towns was equal to 3·4, while in the eight Scotch towns it did not exceed 2·4 per 1000. The deaths attributed to diarrhœal diseases, which had been 117, 121, and 111 in the three preceding weeks, declined last week to 81, and included 76 of infants under two years of age; 29 deaths occurred in Dublin, 26 in Belfast, and 8 in Cork. The deaths referred to enteric fever, which had averaged 2 in the four preceding weeks, rose to 6 last week, and were all recorded in Dublin. The 4 fatal cases of scarlet fever were 1 in excess of the number in each of the two preceding weeks and included 2 deaths in Belfast. The deaths referred to whooping-cough, which had been 5 in each of the two preceding weeks, declined to 2 last week, which were registered in Dublin and Belfast respectively. The 2 fatal cases of diphtheria were equal to the average in the three preceding weeks, and were recorded in Belfast and Cork respectively. The deaths referred to diseases of the respiratory system, which had been 42 and 43 in the two preceding weeks, were 42 last week. Of the 396 deaths from all causes in the Irish towns last week, 113, or 29 per cent., were recorded in public institutions, and 9 deaths were attributed to different forms of violence. The causes of 14, or 3·5 per cent., of the deaths registered in the 22 towns last week were not certified either by a registered medical practitioner or by a coroner after inquest; the proportion of uncertified causes of death in the week under notice did not exceed 0·6 per cent. in the 77 large English towns, or 1·8 per cent. in the eight Scotch towns.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: T. T. Jeans to the *Yarmouth*, temporary, on commissioning; and J. Whelan to the *Doris* on recommissioning. Surgeon: R. N. W. W. Biddulph to the *Pembroke*, additional, for disposal on *Doris* paying off.

ROYAL ARMY MEDICAL CORPS.

Colonel R. I. D. Hackett, principal medical officer of the Karachi Brigade, has taken up duty as Principal Medical Officer of the Abbottabad Brigade. Lieutenant-Colonel M. L. Hearn, medical inspector of recruits in the Irish Command, has been selected for appointment as Senior Medical Officer in Ceylon, embarking early in October. The War Office has approved an exchange of positions on the roster for service abroad between Lieutenant-Colonel E. A. Burnside and Lieutenant-Colonel J. C. Morgan, serving at Golden Hill and Dublin respectively. Colonel Morgan has been posted in consequence to Glasgow, with effect from Oct. 1st for duty in Charge of the Military Hospital at that station, in succession to Lieutenant-Colonel F. W. G. Gordon-Hall. Major P. J. Probyn, D.S.O., on return from a tour of duty in Hong-Kong, has been appointed

for duty at Londonderry. Major B. F. Zimmermann, who has been stationed at Topsham, has been appointed to the Medical Charge of the troops at Lancaster. Major G. St. C. Thom, who is serving in India, has taken up duty as Staff Officer of Medical Mobilisation Stores in the Second (Rawal Pindi) Division. Major W. E. Hudleston has been transferred from Parkhurst to the Military Hospital at Portsmouth. Major G. B. Carter, from Rangoon, has taken up duty at the Station Hospital, Maymyo, Burma Division. Major M. P. Corkery has been granted leave of absence home from India for eight months. Major H. S. Roch has been detailed for a tour of service in South Africa. Major J. S. Gallie has been posted to the London District and appointed Medical Officer of the Tower of London. Major A. L. A. Webb has taken up duty as Sanitary Officer at Sierra Leone, West Africa. Captain R. K. White, serving at Fermoy, has been directed to join the course of instruction for promotion to the rank of Major at the Royal Army Medical College, London, commencing on Oct. 31st next. Captain J. H. Robinson, Military Hospital, Curragh, has been placed under orders to embark for India about Oct. 11th for service with the Northern Army. Captain D. S. Skelton has been appointed to the Northern Command, England. Captain R. C. Wilmot, from the Portsmouth District, has taken up duty at Colchester as a Specialist in Ophthalmology to the district. Captain R. J. B. Buchanan has been selected for appointment as Clinical Pathologist to the Queen Alexandra Hospital at Cosham. Captain J. G. Bell has joined for duty at Seaforth. Captain J. E. H. Gatt has been transferred from Allahabad to Benares. Captain A. E. B. Wood has been posted to the Woolwich District. Captain H. B. Kelly has been appointed Specialist in Advanced Operative Surgery to the Dublin District, with headquarters at the Royal Infirmary, Phœnix Park, Dublin. Captain T. S. Dudding has taken up duty at the Military Hospital, Colchester. Lieutenant F. B. Dalgliesh, from the Station Hospital at Mhow, has been granted six months' leave of absence home from India on medical certificate. Lieutenant H. V. Stanley, from Dublin, has taken up duty at Kilbride Camp. Lieutenant T. J. Hallinan has been transferred from Cork to Kinsale. Lieutenant G. P. Taylor, from Glasgow, has joined at Irvine.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel P. Hehir has been selected to officiate as Principal Medical Officer of the Burma Division. Lieutenant-Colonel A. W. T. B. Buist has relinquished charge of the duties of superintendent of the Ambala District Jail. Lieutenant-Colonel B. C. Oldham, medical inspector of colonial emigration, has been granted 15 months' leave of absence home from India by the Home Department. The services of Lieutenant-Colonel C. F. Fearnside, senior medical officer at Fort Blair, have been replaced at the disposal of the Government of Madras. Lieutenant-Colonel P. Carr-White, agency surgeon, Madras Presidency, has been granted privilege leave of absence for 30 days. Major H. A. Forbes Knapton has been succeeded in the charge of the duties of Deputy Sanitary Commissioner of the Central Registration District, Bombay, by Captain A. F. Hamilton. Major P. Dee has been selected for appointment as First Class Civil Surgeon, Mandalay. Major P. St. C. More has relinquished charge of the Campbellpore Jail. The services of Major V. H. Roberts, medical officer in charge of plague preventive measures in the Rohtak District, have been replaced at the disposal of the Educational Department of the Government of India. Major C. F. Weinman, officiating resident physician at the Medical College Hospital, Calcutta, has been appointed a Second Class Civil Surgeon, and posted to Purnea in succession to Captain H. R. Dutton, transferred. Captain J. D. Sandes, probationer in the Chemical Examiner's Department of Bengal Presidency, has been appointed to officiate as Resident Physician at the Medical College, Calcutta, during the absence on deputation of Captain W. V. Coppinger. Captain R. B. Nicholson has been appointed to the Medical Charge of the 36th Horse. Captain H. Halliday has been posted to Lyallpur as Civil Surgeon on return to India from leave of absence. Captain W. S. Nealor has been appointed to the Substantive Medical Charge of the 123rd Outram's Rifles. Captain J. Husband has been selected for appointment as Medical Officer in Charge of the 30th Mountain Battery and the Frontier Royal Garrison Artillery. Captain H. B. Steen has taken up duty as First Resident Surgeon at the Presidency General Hospital during the absence on deputation of Captain J. W. D. Megaw. Captain W. C. Ross, deputy sanitary commissioner of the Bihar and Chota Nagpur Circle, has been granted three months' privilege leave of absence. Captain J. Masson, officiating civil surgeon of Serampore, has been appointed second resident surgeon at the Presidency General Hospital, Calcutta, in succession to Captain H. B. Foster. Lieutenant A. L. Sheppard has taken up duty as medical officer in charge of the 23rd Pioneers. Lieutenant W. O. Walker has been selected for appointment as medical officer in charge of the 27th Light Cavalry.

DEATHS IN THE SERVICES.

Deputy-Surgeon General Sir Henry Jules Blanc, K.C.V.O., aged 80 years, at Paris on Sept. 30th. He served in the China War, 1860–62, as assistant surgeon with the Jagir Corps. In 1866–68 he accompanied a mission to Abyssinia on special duty, and was taken prisoner and kept in chains for nearly two years by the Emperor Theodore. He subsequently received the thanks of the British Government, and was awarded a gratuity of £2000 with the medal. Later he joined the British troops and was present at the storming and capture of Magdala (medal). After acting as senior surgeon and professor of surgery at the Grant Medical College, Bombay, he retired in 1887. He was created a K.C.V.O. in 1901.—Surgeon-Major John Raby, retired pay, late Bombay Medical Service, on Sept. 22nd, at Devonia, Paignton, aged 70. He joined the Bombay Medical Service as assistant surgeon in 1866, and in the following year accompanied the Bombay troops to Abyssinia, and took part in the expedition under Sir R. Napier. He retired in 1879.

VENTILATION IN THE NAVY.

The *Naval and Military Record* of Sept. 27th published a letter purporting to come from a chief petty officer, the highest grade on the lower deck, complaining of the bad ventilation of the newest ships in the navy and of the consequent wetness of their decks all through the winter, and asking that some officer should be directly responsible for the proper and unobstructed use of the ventilating machinery on board at all times. The new principal medical officers of the fleets have here at once employment worthy of their position. We shall expect to hear quite a different tale next winter, for those officers know as well as we that "a dry ship is a healthy ship," and they now have power to make their representations to the highest authorities.

NAVAL MEDICAL DINNER.

It is proposed to have the naval medical dinner in London about the third week in November, and further details will be given when the date is decided upon.

THE HEAD-DRESS OF THE ARMY.

The Army Council has decided that the service dress-cap is to be the head-dress for wear by all ranks in the field in temperate climates for all branches of the Expeditionary Force. The present pattern of service dress-cap is a modification of what used to be known as the "Brodrick" cap with the addition of a peak. It is a comfortable and in many ways a very suitable cap, but it does not give any protection to either the head or neck from the sun or from missiles such as stones when troops are on strike duty. A good head-dress for troops should provide protection to the head and eyes from the heat and glare of the sun, should be waterproof and afford little resistance to wind, should be possible of ventilation, light, durable, and comfortable, and should not press unduly on the scalp. The solution of these difficulties remains to be effected, as it is almost impossible to combine all the above advantages in a head-dress appropriate to all climates and at the same time suitable for peace and war.

ENTERIC FEVER AT WHITTINGTON BARRACKS.

The *Times* states that two deaths have taken place as the result of the outbreak of enteric fever amongst the men of the 2nd Battalion Royal Warwickshire Regiment, who are stationed at Whittington Barracks, Lichfield.

THE JAPANESE NAVAL MEDICAL DEPARTMENT IN THE RUSSO-JAPANESE WAR.

THE second instalment[1] of the translation of the Japanese naval medical report of the late war by Dr. Chemin, staff-

[1] The first appeared in THE LANCET of Sept. 23rd, p. 914.

surgeon in the French navy, appears in the September number of the *Archives de Médecine et Pharmacie Navales*. It should be read by every naval surgeon. This month he recounts the medical experiences associated with the sinking of ships by submarine mines, and rules are given for dealing with such emergencies. The less freeboard a rescuing boat has the better, for to get a half-drowned man over the high side of a big boat like a launch is a matter of great difficulty and takes up much time, time which is then very valuable, for the more quickly each man can be got on board the more men will be rescued. When a ship is sinking, men who jump into the sea, especially in cold weather, should not remove their clothing, for the air within it is only gradually displaced by water, and until that occurs it goes on acting as a non-conductor of heat, and so for the time delays and diminishes chill and shock. A man in the water should not try to swim except for a definite purpose, but be content to float, and be satisfied if he can just keep his mouth above water. The best life-buoy is a lashed-up hammock; it does not turn over and over like a cask, and there is always the lashing to hang on to; and a man, especially if exhausted, should never let go of his hammock, however near the boat he is, till his rescuers have hold of him. When a man has been rescued get his wet clothes off, wrap him in dry blankets (have some ready in the boats), give him a hot drink, and lay him down in a warm part of the ship (flats or ammunition passage). When the *Hatsuse* (three surgeons and seven nurses she had) was lost, 340 men were taken out of the water by boats from other ships. It was noted that when the boats came no man asked for help for himself, but they all eagerly hailed their rescuers, telling them where to find the officers.

"THE MILITARY SURGEON."

The *Military Surgeon* (Washington, D.C.) for September has as its first paper an article on Cholera by Dr. J. M. Hurley, who served through the Civil War and several cholera epidemics. He sketches the history of the cholera epidemics of Canada and the United States in detail and gives an excellent clinical account of the disease. He notices particularly the movements which occur from post-mortem contractions of muscles. He has known them to continue even for 24 hours. They often make watchers doubtful if the patient be really yet dead. Major J. H. Ford, Medical Corps, U.S.A., declares that in the manœuvre camp at Galveston 4000 men, all inoculated against typhoid fever, had not one case of the disease during the three months of the camp, while the incidence on 4000 persons living in the closely adjacent Galveston was in the same period 19. The most prevalent diseases were venereal; fortnightly inspections were made and prophylactic packets were issued, but in insufficient numbers. Captain E. B. Vedder, of the same corps, recommends ipecacuanha with the emetine left in for the cure of amœbic dysentery. The official U.S.A. army regulations for the use of salvarsan by intravenous injection and for antityphoid inoculation are given.

UNIVERSITY OF LONDON.—Professor E. A. Minchin, M.A., professor of protozoology in the University, will give a special course of about 15 lectures on "Trypanosomes and Allied Flagellates" at the Lister Institute of Preventive Medicine at 5 P.M. on Tuesdays and Fridays during the second term (January to March, 1912). These lectures, which are free, will be addressed to honours B.Sc. students and to medical men, and will be followed by exhibits of preparations as occasion requires. Further details will be published at a later date. A course of four lectures on "The History of Plague" will be given by Dr. Charles Creighton at the University, South Kensington, on Fridays, Oct. 20th, 27th, Nov. 3rd and 10th, at 4 P.M. Lecture I. will deal with "The Great Plagues of the Sixth and Fourteenth Centuries"; Lecture II. with "The Breeding-places of Plague"; Lecture III. with the "History of Plague in India"; and Lecture IV. with the "History of Preventive Measures and their Theory." A course of eight lectures on "The Manipulation and Theory of the Microscope" will be given by Mr. J. E. Barnard, F.R.M.S., at King's College, on Wednesdays, at 5 P.M., beginning on Oct. 11th. The lectures are addressed to advanced students of the University and to others interested in the subject. Admission free, without ticket.

Correspondence.

"Audi alteram partem."

THE NATIONAL INSURANCE BILL.

To the Editor of THE LANCET.

SIR,—May I be allowed to refer to a few of the points raised by Mr. Albert Benthall in his letter published in THE LANCET of to-day's date. To deal with his second paragraph. When and where has the Chancellor offered "to grant a very much higher scale than at present in force in contract practice"? The ordinary scale is about 4*s.* per head per annum *for examined lives*. The Chancellor said in Parliament that 8*s.* 6*d.* was a most extraordinary demand; he also intimated that £4,500,000 would be set aside to provide medical aid for 15,000,000 people. This works out at 6*s.* per head, and may be presumed to include drugs, appliances, serums, vaccines, &c. These 15,000,000 will include all lives, not examined, even chronic invalids so long as they are not too bad to do some kind of work. In my opinion the present club pay is the better bargain of the two. I can nowhere find evidence that the Chancellor's "offer to relieve the profession of the expense of drugs" has been declined. On the contrary, Clause 14 (5) provides for dispensing as a separate charge from treatment.

I quite agree that the neglect to adequately safeguard club doctors, the leaving the whole matter of payment an open question, the constitution of health committees, and their substitution for Friendly Societies, are very weak points in an already weak position. I would go farther and say that in my opinion the six-point programme is in itself a confession of weakness; a compromise which has been still further compromised. I gather from the tone of his letter that Mr. Benthall thinks gravely of the present position of the profession. So do I. I think that the opening rounds of the fight have left us in a worse position than before. I think, apparently with Mr. Benthall, that our present tactics will not carry us to victory. But when Mr. Benthall comes to the remedy I am bound to say that I consider it worse than the disease.

Chief among Mr. Benthall's arguments is the perfectly true one that under the new *régime* we shall be at the mercy of Friendly Societies, lay committees, work-people's representatives, *et hoc genus omne*. His remedy is that we should all become State servants, at the mercy of Parliamentary officials, under the absolute control of a Government which, whatever colour it may be, depends for its life on the votes of the very classes we would escape from. The justice of our plea for relief from Friendly Society control was recognised in Parliament by the vote, 337-15. The expediency of conciliating these societies was proved by the Harmsworth amendment, accepted by Government without demur. And it will always be so. The rights of thousands will weigh as nothing in the eyes of any Government when compared with the votes of millions. Our servitude will be far greater as State servants than as club doctors. A State servant is a dumb, muzzled servant, who cannot speak his mind on any public question; he has no politics; he is no longer a citizen; his independence is gone. I think that the establishment of a State medical service would be a calamity for the public and the profession. But Mr. Benthall says that this is the only alternative. Here again I must differ. The alternative to club slavery and to State slavery is independence. Abolition of contract practice is the only logical outcome of the frequent complaints uttered against contract practice by doctors, Poor-law Commission, Chancellor, &c.

The worker up to now has been a poor man whom we have readily recognised as being unable to pay adequate fees, and whom we have been glad to meet much more than half way by attendance at a nominal sum. As a State beneficiary he will be a rich man, and therefore in a position to pay us proper fees. For many years we doctors have been underwriting the insurance risk, because the man has been poor. Now the State should take the burden from our shoulders and undertake their own insurance risk.

Mr. Benthall asks: "Is it possible to secure the best medical service to the people without undue expense to the State, and with honour and sufficient emoluments to medical

men?" My answer is, Yes, it is possible, but not with a State service, which will probably not be efficient, nor will it be honourable of us to give up our birthright of independence. The highest efficiency of medical practice is an adequately paid private practice. If the highest efficiency be gained the expense will not be undue. If the State wants the highest efficiency, the State, not the profession, must pay for it.

It is possible to get out of the present imbroglio with honour, to secure an efficient service to the workers, and to secure acceptable terms of service for the profession, but, in my opinion, this can only be done by adopting the policy of "payment per attendance." This policy has been endorsed by an immense number of practitioners in this country, and only now the German insurance doctors have given notice that they have had enough contract practice and will not have any more of it. Can we not profit by the experience of our German brothers? Can we not say this contract system stands condemned in this country and in Germany, and we will not take service under it? Our terms are: No insurance risk and payment per attendance. If you do not like them you can leave them.

I am, Sir, yours faithfully,

H. F. DEVIS.

Bristol, Sept. 30th, 1911.

To the Editor of THE LANCET.

SIR,—I have read with great interest Mr. Benthall's letter in your last issue. With most of his remarks I am in perfect agreement, and I think he shows clearly the disastrous effect the present Bill is likely to have on the future of the profession. Although personally a strong opponent of Friendly Society control, there is much in his contention that control by the Local Health Committees may not be one whit better, but only Friendly Society control "writ large." With regard to a "strike" being "an insult to the profession, and impracticable," unless Mr. Benthall has in his mind a medical strike on all fours with one of the recent industrial strikes, I cannot agree with him. No strike of that nature has ever been contemplated. There would be nothing impracticable in the great body of the profession refusing to undertake any of the medical duties laid down by the Bill, if passed in opposition to its demands. Unless the British Medical Association is to stultify itself, some such step must be taken if the requirements of our profession are surrendered to the clamours of the Friendly Societies.

With regard to a State Medical Service, that is a matter for further consideration, and there is, in my opinion, another alternative, which would still leave open the question of the formation of such a service. In Ireland the Irish Parliamentary Party is going to demand that medical benefits be excluded from the Bill. It is said the profession in Ireland is opposed to this; but if any such policy could be carried out here I cannot help thinking that it would be heartily welcomed by the great majority of the profession. Whatever evils exist now, few, I think, would wish to change the present state for the uninviting prospect offered by this Bill or its probable developments. The evils instanced by Mr. Benthall are appalling enough, and he does not mention the profound blow that must be given to the welfare of the profession, in the practical absence of an income-limit, by changing the greater part of the present private practice into club practice. A State Medical Service for those unable to pay, which might after all be only a reformed Poor-law Medical Service, would be a small evil compared with such a revolution. With the Friendly Societies and medical profession diametrically opposed on fundamental principles, which do not admit of compromise, it is next to impossible to expect that any system of medical benefits can be usefully included in the Bill, and the best alternative is that the Bill—if it is to pass at all—should restrict itself, as I believe was the original intention of its promoters, to benefits other than medical. I am, Sir, yours faithfully,

London, Sept. 30th, 1911. MAJOR GREENWOOD.

To the Editor of THE LANCET.

SIR,—I am in a good deal of agreement with Mr. Benthall's remarks in your current issue regarding the minimum capitation grant; but the profession seemed to be almost unanimous in excluding any amendment to the Bill for effecting this purpose. For instance, at a meeting of the local profession here I brought this matter forward but failed to find a seconder for my proposal. I do not, however, remember to have read any speech or statement by the Chancellor in which he offered a "much higher scale" than the present average. No definite minimum scale was laid down in introducing the measure; and afterwards on many occasions, especially at the special meeting of the British Medical Association, he advised the doctors not to try for the insertion of such a provision in the Bill. Rightly or wrongly, his desire seemed to be that we would not be tied as to our future action, and that by our own solid and unbroken combination we would be able to safeguard ourselves as regards our duties and remuneration. Personally, I think that Mr. Lloyd George, since he properly understood representative medical opinion, has had a sincere desire to do us justice, and that the more satisfactory and fair our payment eventually would be the better he would like it. But the profession does not seem to see it in this light. Again, Mr. Benthall raises the question of the "free choice of doctor." But, at every branch meeting of the British Medical Association, to which all practitioners in the area, members and non-members, were invited, this provision was carried with practical unanimity. If the views of the profession are thus put forward and afterwards repudiated, how can any statesman enter into negotiations with us in the future? It is unfair to assume that the interests of those holding club appointments have not been properly considered.

Now, when a comparison is instituted between the present medical attendance under the Friendly Societies and that contemplated under the National Insurance Bill, and a choice asked to be made between the two, I have little doubt on which side the bulk of the general practitioners would be found. Nor can I agree with Mr. Benthall that the control of the Local Health Committees, for which the united profession has asked, would have nearly as many objectionable features as that of the Friendly Societies. On this head, indeed, no acknowledgment is made of the Chancellor's repeated promises to give the profession increased representation on the Insurance Commission, the Advisory Committee, and the Local Health Committees; nor is mention made of the Local Medical Committees which it is proposed to set up in each area, and which will directly represent the medical men on the panel. Fair-play demands that these concessions should be acknowledged. It is, of course, true that the Friendly Societies may have a majority on the Health Committees, but even then much of the control of the doctors will be carried out by well-defined rules made by the Insurance Commissioners. But even from the point of view of the general practitioner's interests it would be better for the Friendly Societies to have such a majority than the public health authorities who, from the introduction of the Bill, have wished to get the service into their hands and appoint whole-time medical officers to the great detriment of the interests of the general practitioners.

We have thus a medical service with doctors discharging "very responsible public duties," strictly regulated by the rules of the Insurance Commissioners, guarded by the ethical rules of the Local Medical Committee, and with the insurance doctor more independent, paid a better capitation fee, and having more security of tenure. And such being the case it is difficult to understand why malingering should increase; and from my own experience of nearly 25 years' work, including club and other forms of practices solely amongst the working-classes, I hold that a much greater check will be kept on these evil practices under the National Insurance Act than under the Friendly Societies.

In his letter Mr. Benthall pleads for a State medical service, and certainly this might have its advantages for the present generation of medical practitioners; but I think such a system is much more likely to be evolved from the medical service under the National Insurance scheme than to be immediately proposed by any practical statesman, taking into account present experiences. Lastly, as Mr. Benthall has entered a plea for the present club doctors, I hope I may be allowed to plead for those practitioners who believe in the beneficence of the amended National Insurance Bill. More than three-fourths of the work under the Act will fall to the lot of those practitioners who practise in the great industrial and working-class centres. To those, then, threatened on one flank by ever-increasing hospital abuse and on the other flank by Socialistic Poor-law reform and an extension of the present club system, and daily having their incomes reduced to almost vanishing-point from other causes too numerous to enumerate, I think the Bill will bring an enhanced income and substitute security for precariousness. It

is exactly those struggling practitioners, before whom Mr. Benthall would not spread temptation, who will be made more secure financially, and therefore more independent to discharge their duties under the Act. It is only doing bare justice to the heads of the British Medical Association to say that, since the introduction of the Bill, their policy has been to get from this measure the greatest good for the greatest number; but whilst I admit this, I believe that criticism of the Bill, both lay and medical, has been often one-sided and unfair, and frequently of the blind-alley kind. No attempt seems to have been made to consider the Bill in an impartial, calm, and reasoned manner, and from the point of view of the present position of the general practitioners who, as I have stated above, will attend the largest number of patients under the scheme. No acknowledgment is made of the fact, admitted by hospital managers, that the out-patient departments of the hospitals will be depleted by reason of the number of patients who will then be the paying patients of the insurance doctor instead of the recipients of charity; or of the number of present parish patients who will in the future be placed under the insurance scheme. And then we are told nothing, by those critics, of the one or two millions of money for maternity benefit which may, if we wish, go into our pockets.

And are we to forget the "Battle of the Clubs" (so graphically described in THE LANCET), or, to come to questions more immediately connected with the present crisis, are we to leave out of count the undoubted fact that in any case, even if the Bill is lost, there will be a large accession in numbers of the members of the Friendly Societies, partly due to the increased business stimulus given by the discussions on the Bill, but, even more due to the fact that the industrial insurance companies, the dividing and collecting societies, &c., may, Bill or no Bill, start Friendly Society work on their own account, safeguarding themselves, if necessary, from any hostile action of the General Medical Council by the adoption of a system based somewhat on the lines of the National Deposit Friendly Society. By this means it is said that, including women and children, the number of club patients in the kingdom will soon reach a total of 10 or 12 millions—a figure nearly approaching that contemplated under the Insurance Bill. And who will say that the present club doctors and others will not continue to give attendance to those new members in the future as they have attended the old members in the past, especially when we are informed that even recently men were working against each other to secure a club appointment with a 3*s*. 6*d*. per annum capitation fee?

In conclusion, I am fully aware that many medical men would kill the Bill and use some polite word about the consequences. But I will not be "in at the death," because I believe in the scheme, and I think the profession will make a huge blunder if by unreflective action this disastrous result is brought about.

I am, Sir, yours faithfully,

Mile End-road, E., Oct. 2nd, 1911. M. S. HARFORD.

To the Editor of THE LANCET.

SIR,—From the almost universal dissatisfaction expressed regarding the Insurance Bill, it is now evident that failing its withdrawal it will secure at most a reluctant acceptance in the House of Commons. The present is therefore, I think, an opportune moment for the profession to come forward and proffer its assistance in framing a measure which would be in its best and truest sense a State Medical Service. Each of the three parties concerned—the State, the public, and the medical profession—are now cognisant of each other's difficulties as well as of the advantages and disadvantages in such a scheme; indeed, the ignorance of Mr. Lloyd George on these matters was the primary cause of the present *impasse*.

Should such a proposition be accepted by those concerned, the medical element in such a conclave needs some guarding. Grateful indeed as we are to the British Medical Association for its action in the later negotiations with the Government, there is a feeling amongst many of us that in the earlier stages it was the *vis a tergo* of the justly irate general practitioner that saved the situation by strengthening the resistance of that Association.

Following the recent precedent of a Royal Commission on Railway Disputes the Chancellor of the Exchequer may perhaps see his way to appointing a commission comprised of delegates from Friendly, Dividing, and Insurance Societies, hospital officers, chemists, and, last, but not least important, general practitioners, who, after all, are the 'mainspring' of the machine. While maintaining those points which we have hitherto deemed vital to our existence, I think in many other directions from no other source could Mr. George obtain more valuable help and wider experience in making straight the way to the loyal and lasting acceptance by the entire medical profession of a very necessary measure of social improvement.

I am, Sir, yours faithfully,

Norbury, S.W., Oct. 3rd, 1911. FRANCIS MURPHY.

THE HUNTERIAN SOCIETY'S MEDAL.

To the Editor of THE LANCET.

SIR,—The Hunterian Society awards annually a silver medal for the best essay by a general practitioner embodying the results of his own observations. May we remind intending candidates that the last day for the present competition is Dec. 31st, 1911. Any further particulars may be obtained from us. Thanking you,

We are, Sir, yours faithfully,

A. P. GIBBONS,
A. C. JORDAN, } Honorary Secretaries.

17, Finsbury-circus, E.C., Oct. 3rd, 1911.

THE THERAPEUTICS OF SCARLET RED.

To the Editor of THE LANCET.

SIR,—A recent search in its literature inclined me to think that scarlet red was almost unknown in this country, and your annotation on its properties may possibly bring it into commoner use. My introduction to it was through a letter from Mr. J. E. R. McDonagh, which appeared in your columns on Nov. 27th, 1909, and suggested its employment for ulcers. I have had no opportunity of trying it in this condition, although since April last I have prescribed it in almost 80 cases in this hospital. In the great majority of these it was given for intertrigo of the ears or of the napkin area, and certainly seemed to produce marked improvement in even 24 hours. One case in which I used it had an irregular raw area (measuring about 10 by 6 cm.) on the scalp over the left parietal bone due to a burn. This was treated with scarlet red and in 19 days was completely covered with smooth, supple skin, on patches of which hair is now growing. To set off such a satisfactory result I may mention one case of suppurating hip-joint disease the wound of which had completely broken down, and one case of fæcal fistula with much skin irritation. In both these scarlet red failed, and in the latter made the condition worse in the short time it was applied. This emphasises the necessity of having the surface clean, as you quote from Schmieden. My experience is limited to one form—that procurable from Zimmermann. I have noticed that after a time a gritty sediment forms in the preparation. This seems to show that it is preferable to make it up frequently in small quantities at a time.

I am, Sir, yours faithfully,

Park Hospital, Hither Green, Lewisham, S.E., Sept. 30th, 1911. JAMES RAE.

UNPAID MEDICAL ASSISTANCE ON BOARD SHIP.

To the Editor of THE LANCET.

SIR,—I should like an expression of opinion on the following. On board the steamer in which, as a passenger and not as a medical man, I recently returned to England, the surgeon sought my advice as to a stoker who had been in hospital some days. I at once volunteered to see the case and advised immediate surgical intervention. The surgeon then asked me if I would give the anæsthetic. I did so, and intimated that, while quite willing to help a *confrère* on a point of diagnosis, I considered I was entitled to a fee from the shipping company for the administration of the anæsthetic.

The surgeon was in agreement with my view and promised to arrange the matter with the captain of the ship. The latter, however, ridiculed the idea, and on my speaking to him stated that the services were rendered to the ship's surgeon personally and not to the company. He sent for the surgeon, and on his reply that he had asked for my services

said: "Then you must pay the fee." The captain's view, as he stated it, was that he or the mate could have given the anæsthetic. The manager of the company in London takes the same view and refuses remuneration. The surgeon himself offered me a fee, which, of course, I declined to accept.

The question arises: Can a ship surgeon pledge the credit of his company to secure the services of a qualified anæsthetist for urgent operations on board?

I am, Sir, yours faithfully,

London, Sept. 26th, 1911. C. J. S.

*** We cannot say what view would be taken in a court of law of this claim. That a ship's surgeon ought to be able to provide himself with the services of an anæsthetist, if one is available, without having to pay the fee personally is clear. It is equally clear that no passenger, because he happens to be a qualified medical man, ought to be allowed to give anæsthetics to a steamship company's servant without remuneration. The lesson is that medical passengers asked to assist in an operation on board ship, the patient being one of the ship's company, should state their fee to the captain and learn that they will receive it. By the way, what would happen if a captain or mate administered chloroform to a stoker and killed him, having refused to pledge the company to pay for the help of a qualified medical man? The course of modern litigation suggests that the company might have to pay say £200 to a widow instead of 2 guineas to a practitioner.—ED. L.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The British Hospitals Association and the National Insurance Bill.

THE second annual conference was held in the Town-hall, Manchester, on Sept. 28th and 29th. Of the three subjects set down for discussion by far the most important was the question of the National Insurance Bill and its probable practical effects upon the voluntary hospitals and their work. The whole of the morning of the first day's meeting was devoted to this subject.

The chairman of the conference, Sir William Cobbett, who is also chairman of the infirmary board, delivered a long and closely reasoned address. He said that the effect of the Bill in the main would be financial. It had been suggested that it would make a considerable difference to the amount of work that hospitals would have to do, and that it would curtail the work of the out-patient department. It seemed safe to assume at present that the work of the out-patient department, though it might be diminished to some extent, would not be enormously affected. All those persons who were at present treated as in-patients would hereafter be insured persons, and all insured persons would be eligible as in-patients. On the other hand, there seemed no reason for supposing that in-patient work would be diminished, and the in-patient work was the expensive work of hospitals; therefore he thought that the Insurance Bill would not diminish the work of the hospitals in future, and their expenditure would be just as large. As to the effect of the Bill on the finances of the hospitals, it would lessen the amount of their subscriptions through the taxation for an allied purpose of the people who at present voluntarily supported them. He controverted the opinion of the Chancellor of the Exchequer that the Bill did not touch the hospitals, but designedly left them alone. The Chancellor, he said, had tapped and diverted two of the sources from which voluntary hospitals obtained a very large proportion of their donations and subscriptions—the working man and the employer, and it did not follow that the opinion which the Chancellor had formed was the correct one. As to the effect on subscriptions, almost without exception the opinion of the administrators of hospitals was that the Bill must necessarily have a serious and injurious effect on the finances of hospitals. Was it not a reasonable thing for hospitals to ask that some precautionary provision should be inserted in the Bill, so that in two or three or four years the hospitals should not be found in a crippled condition, so that they should not have to close their doors? The association had proposed to the Chancellor that he should amend his Bill in such a way that the voluntary hospitals should receive proper payment in respect of each in-patient treated within their walls.

Mr. Lupton, chairman of the Leeds Infirmary, discussed the effects of the Bill on the hospital system itself, as apart from the effects of the Bill on the finances of the hospitals. The great hospitals were in the great centres of population, and it was only in such centres that sufficient pecuniary assistance could be obtained for their institution, and where men qualified to devote themselves to the highest type of medical work could afford to group themselves. If they were to retain the great benefits of the present voluntary system, they must take care that if subventions from the public purse proved necessary such subventions in the case of the larger hospitals should come, not from the funds of the localities where such hospitals were situated, but from the National Exchequer. If the hospitals were municipally subsidised and controlled the tendency would be to close them to people living outside the municipality. In that case he failed to see how such help was to reach the people who lived in remote villages and hamlets.

Dr. D. J. Mackintosh, superintendent of the Western Infirmary, Glasgow, suggested that the Bill might be amended to prevent anyone whose income was over the insurance limit from admission to a voluntary hospital, and by making provision in the Bill for the Insurance Commissioners to defray the cost of treatment of each person admitted to hospital. The alternatives, he said, were for the Government to make such amendments as would not only safeguard the voluntary hospitals but render them increasingly efficient, yet less liable to abuse, or for the State to take them over, finance them, and see them carried on.

Amongst the other speakers were Mr. Howard J. Collins, of the General Hospital, Birmingham, and Mr. J. C. Buchanan, secretary of the Metropolitan Hospital, London, who urged that the British Hospitals Association should combine with the British Medical Association to draw up a scheme which should define the work that the hospitals would do best in relation to other agencies, and thus assist the Government to carry out its repeatedly expressed intention of maintaining the voluntary system. Sir Henry Bardett urged that more time should be allowed the country for the consideration of the Bill. He strongly favoured the Bill. He was of opinion that it would be a grave peril and a bitter wrong to substitute State aid for the voluntary system. The financial effect of handing voluntary hospitals to the control of the State would mean a difference of 8*s.* 6½*d.* per head of the population. He desired to see Clause 15 of the Bill, which provided for sanatorium benefit, altered to provide for hospital benefit.

On the second day of the meeting the following resolution was passed:—

That this association of hospital managers and administrators is convinced that the National Insurance Bill, if passed in its present form, will seriously prejudice hospitals all over the country, not only financially, but in their relation to the medical profession, and unites in calling on the Government so to amend the Bill that the continued existence of voluntary hospitals may be safeguarded financially, and their efficiency as curative institutions and schools of medicine may be maintained and developed.

Papers were contributed by Mr. Charles Hopkinson on the Distribution of Hospital Saturday and Sunday Funds, and by Dr. Ernest S. Reynolds on the Representation of Honorary Medical Staffs upon Boards of Management of Voluntary Hospitals.[1] The latter urged that the purely business affairs of a hospital should be left entirely to the lay members. Retired members of the medical staff should not act as representatives. The representatives should be relatively few in number, so as to be in a minority. They should attend regularly, shou'd not serve for more than two years in succession, and their function should be to advise or to explain on matters relating to the well-being and treatment of patients, or to the teaching of students. The council of the association was invited to hold the next meeting of the association in Birmingham.

Report of the Medical Officer of the Grammar School.

The annual report to the governors of the Manchester Grammar School by their medical officer, Dr. Alfred A.

[1] Dr. Reynolds's paper is published in full at p. 1028 of the present issue.

Mumford, for the year ending July, 1911, gives as complete a record as possible of the facts of physical growth. These facts are compared with progress in the school. The comparison is placed before the special form masters responsible for particular groups of boys. Each boy has a card on which the details are entered. Actual physical measurements have been efficiently carried out in the school since 1881. Every new boy is medically examined on entry as to eyesight, hearing, teeth, past and present states of health, condition of lungs and heart. Comparing the physical development during the last five years with that of a generation ago—i.e., during the period 1881–86—there has been a remarkable gain in nearly all directions, especially as regards height and weight, amounting to more than one inch in height between the ages of 13 and 16, and to an average increase of more than 4 lb. in weight. At the age of 16 the boys are 1½ inches taller and 8 pounds heavier than a generation ago. The improvement is less marked at 17 and 18 years of age, and disappears in those who stay till 19. These calculations are based on 6000 measurements. This remarkable change has more than school significance and has many causes, chief among them being the steady diminution or postponement of early infectious diseases in childhood, due to the progressive operation of the Public Health Act of 1873. A second factor has been the changed attitude towards physical exercise, particularly during the younger ages, that prevails throughout the school to-day. Other causes conducing to the general improvement in physique are the better housing, the increased knowledge and use of foods, and a greater realisation of parental responsibility for the child's health. Dr. Mumford urges that 13 years is the best age for a boy to come to the city school, for then the brain is still in the plastic and receptive stage. He should stay a minimum of four years. It appears, however, that more than 31 per cent. of the boys stay only two years or less.

Post-Graduate Lectures in Manchester.

A series of post-graduate lectures and demonstrations will be given at the Ancoats Hospital, Manchester, throughout the coming year on Thursdays, at 4.15, commencing on Oct. 12th. All members of the medical profession are cordially invited to attend.

Ancoats Healthy Homes Society.

The report of the Ancoats Healthy Homes Society for 1910–11 states that during the 22 years in which the society has been in existence "a vast improvement has taken place in the condition of the district. Whole insanitary areas have been cleared away by the health authorities, the death-rate has been considerably reduced, and Ancoats generally has been made a more tolerable place for those who live there." During the coming winter the society will arrange for lectures on health topics on such subjects as whooping-cough, enteric fever, measles, and consumption. The chief object is to reach the mothers in the district. Each neighbourhood is visited in turn, and fathers and mothers are invited to attend at the hall "just as they are" and bring their children. The lecture is followed by a concert.

Sunstroke as an Employment Accident.

A case of considerable importance has just been decided by the arbitrator at the Preston county court—a claim on behalf of Margaret Wignall for £171 compensation for the death of her husband, a carter in the employ of a firm of hay and straw dealers. Wignall died from meningitis the result of sunstroke. The applicant contended that the sunstroke occurred during the time the deceased was carrying trusses of hay from a stack to a lorry. Wignall carried 72 trusses of hay, each weighing five stones, in one hour and twenty minutes. The arbitrator, Mr. Mansfield, considered that in Wignall's work there was something substantially beyond the ordinary normal risk, that the injury he suffered was largely the result of his work, and that it was thus an accident arising out of the man's employment. An order was made for the sum claimed.

Oct. 3rd.

GUILD OF ST. LUKE.—The eighth annual festival service of the Birmingham Ward will be held in Gloucester Cathedral at 4 P.M. on Thursday, Oct. 26th, when the sermon will be preached by the Bishop of Gloucester. All practitioners are invited to attend, and further particulars respecting the Guild can be had on application to Dr. W. T. Elliott, 65, Temple-row, Birmingham.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

New Medical Chairs in Connexion with the University of Glasgow.

IT will be recollected that in connexion with the clinical teaching at the University of Glasgow a scheme was put forward to reorganise the whole arrangement of affairs, and to try to make use of the abundant clinical material at the Royal Infirmary. The fact that the Western Infirmary is within a stone's throw of the University buildings naturally made it more convenient for medical students to take out their clinical work there. The tendency for students to remain there for all their clinical teaching was perhaps naturally increased by the knowledge that many of their teachers there, owing to the fact that they held university chairs, were, in some instances at least, their examiners at the final examination. Owing to the overcrowding at the Western Infirmary cliniques it was decided to bring out a scheme which would help to divert part of the stream of students to the Royal Infirmary, which, although at some distance from the University, is being rebuilt with all the facilities necessary for the training of students. Hitherto all students at the Royal Infirmary have been practically drawn from St. Mungo's College, an institution in close proximity to the infirmary, governed by its own board of directors, and laying itself out more especially for the training of dental students and those who were aiming at the triple qualification granted by the faculties at Glasgow and Edinburgh. The only feasible scheme to make the Royal Infirmary a clinical training ground which would attract students going up for a university degree was to put it as much as possible on the same footing as the Western Infirmary by founding chairs of medicine, surgery, pathology, and midwifery, the occupants of which would have wards at the Royal Infirmary, would conduct all their teaching there, and at the same time would have seats in the Senate and be examiners at the University. To find money for the founding of these chairs approaches were made to the governors of St. Mungo's College and also to the trustees under the Muirhead trust, who administer money left by the late Dr. Muirhead for the furthering of medical education in Glasgow. After some difficulty an arrangement was come to, and a provisional order was carried through Parliament to allow of the necessary alterations being made. The last step in the process was carried out last week, when the curators appointed various medical men to the new chairs. To the St. Mungo chair of Surgery Dr. Robert Kennedy was appointed, Dr. J. Munro Kerr to the chair of Obstetrics and Gynæcology, Dr. Walter K. Hunter to the Muirhead chair of Medicine, and Dr. John H. Teacher to the St. Mungo (Notman) chair of Pathology. These arrangements have all been made before the opening of the winter session, and it remains to be seen whether the scheme will have the desired effect of distributing the medical students more or less equally between the two institutions. If the Senate decrees that all clinical classes are to be absolutely limited to a certain number, and fixes the number at such a figure that a proportion of the students will find it impossible to get their training at the Western Infirmary, then the scheme will accomplish what it was intended to do. If, on the other hand, no such rule is made by the Senate and it is left to the free will of each individual student which hospital he will attend, it is probable that, partly from the nearness of the Western Infirmary to the University and partly also from tradition, the bulk of the students will still remain at the Western Infirmary.

Legacy for Scottish Hospitals.

Considerable satisfaction has been aroused in those more intimately associated with hospitals in Scotland over the will of Mr. Edward Davis, a native of Glasgow, who died last month at Cheltenham. The residue of the estate, which is a large one, has been bequeathed to charitable institutions in Scotland. It is expected that a sum of £75,000 may be at the disposal of the trustees, and hospitals should benefit largely.

Scarlet Fever in the Mearns.

There has been an outbreak of scarlet fever in Gourdon, with one death, in consequence of which the public school has been closed. At Bervie, also, the two schools have been closed for the same reason by order of the medical officer.

Banff and Medical Inspection of School Children.

A meeting of the Banff school board was held on Sept. 22nd, when the adjourned consideration of the county scheme for medical inspection of the schools was taken up. The position of the matter, as explained by the chairman, was that at the last meeting the adoption of the scheme sent down by the county committee on secondary education was moved and seconded, and a direct negative was moved by Dr. Murray. Fifteen out of 25 schools had agreed to the scheme, and no school had objected. Referring to the criticism by the board of the action of the secondary committee in getting the approval of the department to this scheme before sending it down to school boards, the chairman, on behalf of the committee, explained that this was the only scheme the department was likely to approve of, it being the scheme the department recommended, and it was a mere formality sending it for approval to the department. After some discussion, Dr. Murray said it was the school boards who were required by the department to provide for the medical examination of the pupils attending their schools, to such an extent and subject to the requirements as may from time to time be prescribed. The school board may employ a medical officer and a nurse. It was not the secondary education committee who had the appointment at all. It was the school board. Regarding the cost of the scheme, Dr. Murray said it was stated as £600 for the first year; but it would be very much more. Dr. Murray said they could carry on a scheme of their own at an equally low cost and it would be better done. He wished to say this final word, that if the board departed from what they had previously done they were flinging an insult on the medical profession in this district. Eventually the scheme was carried, the chairman expressing the opinion that any board could withdraw on a year's notice.

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THE total number of the insane in establishments and in unlicensed houses upon Jan. 1st, 1910, was 24,144. On Jan. 1st, 1911, the total number was 24,394. These figures do not include the insane wandering at large or those residing in private dwellings who are not certified. The figures show that there was an increase of 250 during the year—the increase for the previous year having been 213. The increase was, however, 78 less than the average increase for the preceding ten years, which was 328. The ratio of the increase in the number of the registered insane from year to year, in proportion to the population, is somewhat greater owing to the fact that the general population has been decreasing. From Dec. 31st, 1880, to Dec. 31st, 1910, there was an increase of 11,412 in the total number of lunatics. The inmates of district and auxiliary asylums increased by 11,936; the inmates of private asylums and institutions increased by 287; while the criminal lunatics in Dundrum Asylum decreased by 9, and the lunatics in workhouses decreased by 942. The decrease in the numbers in workhouses is continuing satisfactorily. The admissions numbered 3576, and of these, 2844 were admitted for the first time, while 732 had previously been under care. The total number of patients discharged was 1759, and of these 1307 were recovered, being a percentage of recoveries on the admissions of 36·5, and on the daily average number resident of 6·4. The number of deaths during the year was 1479. The death rate per cent. of the daily average number resident was 7·2. The rate varies from 10·2 in one asylum to 4·4 in another. In 197 cases only were necropsies performed. The number of examinations made, small as it is, tends still further to decrease, the numbers for 1910 being 25 less than for 1909, while the numbers for 1909 were less than those for 1908. The Commissioners again draw attention to the overcrowding which they find in so many asylums and to the consequent necessity for further accommodation. Year after year the same reports and recommendations are made, but apparently they fail to make much impression upon the local authorities.

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Financial Position of the National University of Ireland.

The Dublin Commissioners under the Irish Universities Act, 1908, in a recent report have made clear the necessity for further endowment if the National University is not to meet with disaster. The income of the part of the property of the late Royal University which was conveyed to the National University is not sufficient at present to meet the charges on it, so that the University has as its annual income only the £10,000 a year awarded under the Act and the fees received from its students and graduates. The expenditure of the University in 1910 was, however, £15,534, a sum which exceeded by £1640 its total income for the year. With regard to the finances of University College, Galway, one of the constituent colleges of the National University, the Commissioners make some strong remarks:—

> We felt it our duty to state in our former report that the scheme proposed in the statute for that college did not in any degree conform to our conception of even a passable equipment for a constituent college of the University; that it represented in our opinion merely a makeshift, which we had found to be at the moment practicable, but which was regarded by us not only as unsound, but as constituting an anomaly in the framework of the University system, and from an educational point of view in many respects inadequate. We regret to say that these observations continue to apply to the College. There has not been any increase in its income, and we continue to regard with much apprehension its dangerous pecuniary condition.

Jubilee of the Mater Misericordiæ Hospital.

The golden jubilee of the Mater Misericordiæ Hospital was recently celebrated. The foundation-stone was laid in 1852, and the building was opened, with 40 beds, in 1861. A wing was added in 1872 and another in 1886, so that at present there is accommodation for nearly 350 patients. It was founded and is still maintained by the Sisters of Mercy. One of the original staff of the hospital, Sir Francis Cruise, is still attached to the hospital as consulting physician, and to his constant attention and high reputation much of the success of the institution is due. An interesting point regarding the members of the present staff is that, with the single exception of Sir Francis Cruise, they have all been students of the hospital, which has also supplied teachers to more than one of the other Dublin hospitals. The jubilee was celebrated by the saying of solemn High Mass in the chapel of the hospital, followed by the Benediction of the Blessed Sacrament and the *Te Deum*. A large company was entertained at luncheon, and the Bishop of Canea, who presided, conveyed the Apostolic Benediction from the Pope to the institution, its staff and benefactors. The hospital, though the youngest, is one of the largest in Dublin.

Hospital Supplies and the Strike.

Several of the Dublin hospitals have suffered from their inability to receive supplies during the railway strike. Eggs for the Royal Hospital for Incurables were held up at one station for several days, but were eventually rescued by amateur efforts. Dressings for Sir Patrick Dun's Hospital were similarly held up until a party of the students rescued them. Last week the bakers in the employ of several of the most important bread firms in Dublin went out on strike, while the unaffected firms found themselves unable to supply any but their regular customers. As a result many private houses and public institutions found themselves without enough bread, and several hospitals suffered severely. The Master of the Rotunda, for example, announced publicly that the hospital was entirely deprived of its bread-supply. The matron of Sir Patrick Dun's made a similar announcement, while the Mater Misericordiæ, Mercer's, and Dr. Steevens' hospitals were all in the same painful plight. It was generally held that the action of the strikers was unjustifiable. Within a few hours of the public appreciation of the position of the Rotunda offers of help and parcels of bread began to arrive. From Dublin itself, from the country towns round, from Belfast, and even from London, consignments of bread arrived, while a working baker offered his services to the institutions gratis during the continuance of the strike. Arrangements have now been made to safeguard the supply of the hospitals, which have in the meantime received a remarkable proof of the public feeling of gratitude towards them.

County Down Medical Officers and the Insurance Bill.

A meeting of the North County Down dispensary medical officers was recently held to consider their position under the

National Insurance Bill. The following resolutions were passed unanimously:—

1. That we object to any conditions as to service or remuneration being forced upon us by virtue of our office as dispensary doctors which should not be acceptable to medical men outside our service.
2. That we pledge ourselves to resist any such tyrannous and unjust attempts, by every legitimate means in our power, to try to compel us to accept such terms, and to deprive us of the same freedom of contract as other members of our profession.
3. That we approve of Poor-law legislation being undertaken on the basis of the able and exhaustive report issued by the Poor-law Vice-regal Commission as likely to be more effective and more just than any other scheme before the country, and more suited to its needs and the genius and circumstances of the Irish people.

The Water Famine in the North of Ireland.

At a meeting of the waterworks committee of the urban council of Monaghan, held on Sept. 27th, it was decided to cut off the supply of water to the public institutions—which includes the Monaghan and Cavan Asylum, where there are over 900 patients—and to supply the water to the ratepayers alone for a limited period. The Monaghan water-supply has almost completely failed, the reservoir being nearly empty, and the only water available is some which is being pumped at much expense from Greagh Lake. In Londonderry it is believed that at the present rate of consumption the quantity of water in the reservoirs cannot possibly hold out more than a month. It has been decided to take steps to procure an additional supply. In the meantime, the supply of water was cut off from last Saturday to Monday, and the chairman of the water commissioners stated at the last meeting that the next expedient would be to shut off the supply on four or five days each week.

River Pollution.

One of the linen industries at Portadown has demanded from the Portadown town council the right to the free flow of water of a river into which town sewage passes, an abatement of the nuisance in the river, a supply of water from the Portadown town supply, a clearing out of the sewage from the river opposite their premises, and a payment of £120 to cover their liquidated damages and costs up to the present. If this is not done, an injunction is threatened. The chairman of the town council of Portadown says that to comply with the requirements would mean that the council would have to undertake a main drainage scheme costing £40,000 to £50,000. Certainly these demands raise the question, Should a free supply of town water be given to every factory-owner who complains? The whole problem, a very serious one, is to be considered by the Portadown council in committee. It has already obtained a good water-supply, and will in the end be wiser, despite the great cost, to obtain a main drainage scheme.

Salaries for Urban Councillors.

At the Dungannon urban council, on Oct. 2nd, the following resolution, extraordinary in every way, was unanimously adopted:—

That we call upon the Government to pass an Act of Parliament to demand State payment for all municipalities in Ireland, and to place us on the same terms as the Members of Parliament in England, as I (i.e., proposer of the motion) consider that we, the county councillors, rural district councillors, and urban councillors, are a greater service to the State than most of the Members that are getting £400 a year.

Oct. 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Consumption of Alcohol in France.

FOR many years the consumption of alcohol increased to an alarming degree in France. Physicians and hygienists especially were disquieted, for the results speedily became visible as much in a predisposition to contract different diseases in an aggravated form, as in the fatal influence that alcohol gradually exercises on the mind and in the indolence that its abuse induces. Dr. Jacques Bertillon, however, has now made reassuring utterances in a communication on the Diminution in the Consumption of Alcohol in the Larger French Cities to the Academy of Moral and Political Sciences on Sept. 30th. He exhibited to the Academy 33 diagrams relating to as many cities, from which it appears that the consumption of brandy has considerably diminished since the application of the law reducing the tax on wine and beer and increasing that on distilled beverages. The history of alcohol in France shows that a moderate increase of a tax has no sensible influence on the consumption. As a consequence, however, of the enormous imposts placed on distilled drinks, the consumption of alcohol has greatly diminished in the towns, but not in the country. This is due to the fact that the increase of the town toll is there added to that of the tax; while the duty on wine being lowered, the retailers are interested in selling wine rather than brandy. Formerly the consumption of brandy was almost the same in all the groups of cities—namely, from 7 to 8 litres of absolute alcohol per head—while in the country districts it was only 2·84 litres. It has now fallen to 6 litres in the small towns of from 4000 to 10,000 inhabitants, and to a still smaller figure in the more important towns; while in towns of more than 90,000 inhabitants it has fallen to 4·23 litres. The fall has been most marked in the large towns; in the country districts it has been negligible or absent.

The Effect of the Drought on the Eyes.

Among the numerous inconveniences entailed by the great heat of the past summer has been the great dryness that has prevailed everywhere. In the large towns, particularly where the principal streets, avenues, and boulevards are paved with wood, a serious and unexpected consequence has appeared. The transit of numerous vehicles over this wood pavement, inoffensive though it may be in normal times, ceases to be so in periods of prolonged dryness. The constant friction of the wheels on the wood paving disperses through the air minute particles which get into the eyes. These particles are the more painful in that, being pointed, microscopical though they are, they cause minute abrasions. Numerous cases of eye-trouble have been thus produced. This great heat is naturally accompanied by a more glaring light, due to the excessive brilliancy of the sun, which reflects most painfully on the eyes. On all hands, therefore, oculists have been recommending for eye-glasses the use of yellow glasses which allow some light to pass through; they give a considerable sensation of comfort and allow of a clear appreciation of distances and increase the relief in which objects stand out.

Oct. 2nd.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENT.)

The Thirteenth Annual Conference of the American Hospital Association.

THE Thirteenth Annual Conference of the American Hospital Association, held in New York from Sept. 19th to 22nd under the presidency of Dr. W. L. Babcock of Detroit, was highly successful. The audience was largely composed of women, mostly superintendents or matrons of hospitals, or nurses. They took their part in the papers and discussions with great ability. As speakers they compared favourably with the men. The programme was long, so it must suffice to refer to only some papers of outstanding public concern. Mr. George McAneny, president of the Borough of Manhattan, in welcoming the members to New York, took as his subject hospital reform. He sharply criticised New York's divided system of hospital supervision and advocated a centralisation of the hospitals of the city. He deprecated the action of the city authorities in amending the provision included in the new charter for centralising the control of some of the city hospitals, asserting that it had put the situation back into its former position.

The first, and perhaps the most generally interesting, paper read was by Dr. J. N. E. Brown, of Toronto, until recently superintendent of the Toronto General Hospital. Dr. Brown had just returned from a tour of inspection of hospitals in Great Britain, Germany, France, Austria, and Holland. He referred to the various systems of hospital support, and considered that State or municipal support of such institutions, as in vogue on the continent, was superior to the voluntary method of Great Britain and the partially voluntary method of America. Dr. Brown also appeared to be favourably prepossessed with the European method of hospital administration, and stated that in his opinion "a medical man, *cæteris paribus*, makes the best sort of director of a large hospital, but when appointed to fill such a position he should be relieved of work which belongs to the medical staff. The proper administration of a large hospital demands the sole attention

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(FROM OUR OWN CORRESPONDENT.)

The Consumption of Alcohol in France.

FOR many years the consumption of alcohol increased to an alarming degree in France. Physicians and hygienists especially were disquieted, for the results speedily became visible as much in a predisposition to contract different diseases in an aggravated form, as in the fatal influence that alcohol gradually exercises on the mind and in the indolence that its abuse induces. Dr. Jacques Bertillon, however, has now made reassuring utterances in a communication on the Diminution in the Consumption of Alcohol in the Larger French Cities to the Academy of Moral and Political Sciences on Sept. 30th. He exhibited to the Academy 33 diagrams relating to as many cities, from which it appears that the consumption of brandy has considerably diminished since the application of the law reducing the tax on wine and beer and increasing that on distilled beverages. The history of alcohol in France shows that a moderate increase of a tax has no sensible influence on the consumption. As a consequence, however, of the enormous imposts placed on distilled drinks, the consumption of alcohol has greatly diminished in the towns, but not in the country. This is due to the fact that the increase of the town toll is there added to that of the tax; while the duty on wine being lowered, the retailers are interested in selling wine rather than brandy. Formerly the consumption of brandy was almost the same in all the groups of cities—namely, from 7 to 8 litres of absolute alcohol per head—while in the country districts it was only 2·84 litres. It has now fallen to 6 litres in the small towns of from 4000 to 10,000 inhabitants, and to a still smaller figure in the more important towns; while in towns of more than 90,000 inhabitants it has fallen to 4·23 litres. The fall has been most marked in the large towns; in the country districts it has been negligible or absent.

The Effect of the Drought on the Eyes.

Among the numerous inconveniences entailed by the great heat of the past summer has been the great dryness that has prevailed everywhere. In the large towns, particularly where the principal streets, avenues, and boulevards are paved with wood, a serious and unexpected consequence has appeared. The transit of numerous vehicles over this wood pavement, inoffensive though it may be in normal times, ceases to be so in periods of prolonged dryness. The constant friction of the wheels on the wood paving disperses through the air minute particles which get into the eyes. These particles are the more painful in that, being pointed, microscopical though they are, they cause minute abrasions. Numerous cases of eye-trouble have been thus produced. This great heat is naturally accompanied by a more glaring light, due to the excessive brilliancy of the sun, which reflects most painfully on the eyes. On all hands, therefore, oculists have been recommending for eye-glasses the use of yellow glasses which allow some light to pass through; they give a considerable sensation of comfort and allow of a clear appreciation of distances and increase the relief in which objects stand out.

Oct. 2nd.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENT.)

The Thirteenth Annual Conference of the American Hospital Association.

THE Thirteenth Annual Conference of the American Hospital Association, held in New York from Sept. 19th to 22nd under the presidency of Dr. W. L. Babcock of Detroit, was highly successful. The audience was largely composed of women, mostly superintendents or matrons of hospitals, or nurses. They took their part in the papers and discussions with great ability. As speakers they compared favourably with the men. The programme was long, so it must suffice to refer to only some papers of outstanding public concern. Mr. George McAneny, president of the Borough of Manhattan, in welcoming the members to New York, took as his subject hospital reform. He sharply criticised New York's divided system of hospital supervision and advocated a centralisation of the hospitals of the city. He deprecated the action of the city authorities in amending the provision included in the new charter for centralising the control of some of the city hospitals, asserting that it had put the situation back into its former position.

The first, and perhaps the most generally interesting, paper read was by Dr. J. N. E. Brown, of Toronto, until recently superintendent of the Toronto General Hospital. Dr. Brown had just returned from a tour of inspection of hospitals in Great Britain, Germany, France, Austria, and Holland. He referred to the various systems of hospital support, and considered that State or municipal support of such institutions, as in vogue on the continent, was superior to the voluntary method of Great Britain and the partially voluntary method of America. Dr. Brown also appeared to be favourably prepossessed with the European method of hospital administration, and stated that in his opinion "a medical man, *cæteris paribus*, makes the best sort of director of a large hospital, but when appointed to fill such a position he should be relieved of work which belongs to the medical staff. The proper administration of a large hospital demands the sole attention

of the head." He briefly described the organisation of European hospitals, and expressed himself in favour of the European system generally. As to hospital construction, Dr. Brown thought that the architects of the best of these institutions in Europe had little to learn from their American and British *confrères*. He was especially impressed with the situation of many of the large continental hospitals, placed in large and beautiful grounds, affording plenty of fresh air and secluded from noise. Another feature of some of the Dutch and German hospitals which greatly struck Dr. Brown was the ample provision of bath-houses and of disinfection-houses. Finally, the much-vexed question of ventilation was dealt with, and many of the methods, elaborate and otherwise, for securing a constant supply of fresh air in the wards of hospitals were described at length.

Mr. Edward F. Stevens, A.A.I.A., of Boston, Mass., Dr. Brown's companion during his European pilgrimage, dealt at considerable length with the details and equipment of British and continental hospitals, and compared these with the details and equipment of American hospitals. Mr. Stevens showed on a screen illustrations, exterior and interior, of numerous hospitals visited.

Another excellent paper was read by Mr. J. M. Cosgrave, manager of the Winnipeg General Hospital, on the Development of Typhoid Fever among Hospital Workers. It really was a vindication, if such were needed, of preventive anti-typhoid vaccination. Mr. Cosgrave said that until anti-typhoid vaccine came into use it had been almost impossible to prevent the spread of the disease among nurses and hospital employees; but since its use became general typhoid fever among hospital employees had almost ceased. Dr. H. W. Austin, of the United States Public Health and Marine Hospital Service, also eulogised the efficacy of the vaccine, and said it was being used more and more in the navy hospitals, and with success. Dr. Morrell of Baltimore told of the results of its use in the United States army camp at San Antonio during the manœuvres, and said that among 1200 men who submitted to the treatment only one contracted the disease, and that in a mild form. Dr. Willie G. Neally, assistant superintendent of the New York Hospital, emphasised the importance of properly administering anæsthetics, which was frequently as essential to operative success as the work of the surgeon.

Mr. Robert W. Hibberd, secretary of the State Board of Charities of New York, complained that the hospital facilities of New York city were woefully inadequate to the needs of the population. He further stated that the system of management was far too complicated, and he also was of opinion that centralisation of the hospital organisation was required. The plans of the State Board of Charities, the great hospital department of the city, which cares, probably, for three times more patients daily than the other hospital departments, he said, contemplate that Blackwell's Island shall eventually become a great hospital park for the care of the adult sick poor, that Randall's Island shall be made into a park for sick children, that the King's County Hospital property shall be dealt with in a similar manner, and that the relatively able-bodied poor, who are really the ones cared for by the department, shall be maintained at the Farm Colony on Staten Island, where they may be given plenty of work suited to their strength and capacity. Mr. Hibberd concluded that New York was a generation behind the age in its public hospital and ambulance facilities. To bring it up to date it urgently required a unified hospital and ambulance system.

Mr. Abraham Flexner, of the Carnegie Foundation, one of the authors of the report on the medical schools of America, read a paper on hospital organisation and research, wherein he reiterated the charges made in his report against small and inefficient medical schools. Mr. Flexner pointed to the satisfactory fact that 20 medical schools of this class had gone out of existence during the past year, owing to the campaign among the hospitals which permitted them to flourish. Mr. Flexner concluded by naming several medical schools which, he said, ought to be closed. Mrs. Margaret Engelhart, president of the Association of the Frances Willard Hospital of Chicago, took exception to Mr. Flexner's strictures on certain of these medical schools, and stated from personal knowledge that at least one of them produced as fine a student body as could be desired, and that a graduate of that school would be welcome on the staff of the Frances Willard Hospital. The Rev. A. S. Kavanagh, superintendent of the Methodist Episcopal Hospital, Brooklyn, read the report of the committee on hospital efficiency, hospital finance, and economics of administration, and incidentally paid a well-merited tribute to the work done by Dr. Doty as health officer of the port of New York. This expression of the gratitude of the citizens of New York to Dr. Doty was peculiarly fitting, in that recently Dr. Doty has been fiercely assailed with charges of neglect of duty by political opponents.

Sept. 25th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the First Professional Examination of the Conjoint Examining Board held on Sept. 26th, 27th, 28th, and 29th, the following candidates were approved in the under-mentioned subjects:—

Chemistry and Physics.—William Fletcher Barrett, Birkbeck College; Christopher Frank Good, London Hospital; Frederick John Good, London Hospital; Elma Jamilla Ishmael, London School of Medicine for Women; Reginald Jenner-Clarke, London Hospital; Paul Rustat Ellis Kirby, Brighton Technical College; Louisa Margaret Lister, Bristol University; John Frederick Munton Payne, London Hospital; Thomas Melville Payne, University College, Cardiff; Nirendra Mohan Sen-Gupta, London Hospital; Violet Annie Shaw, Birkbeck College; and Cecil Pembrey Grey Wakeley, Dulwich College.

Chemistry.—Hugh Stanford Bryan, London Hospital; Joseph Adrian Hart, London Hospital; Reginald Fitzroy Jarrett, London Hospital; Thomas William Le Mesurier, London Hospital; William Dundas McRae, London Hospital; Dudley George Pearce, Guy's Hospital; Walter Davies Pearman, Birmingham University; and Ernest Wayte Terry, Manchester University.

Physics.—Henry Searle Baker, St. Bartholomew's Hospital; Gauri Dayal, Bombay and Manchester Universities; Eldon Munro Litchfield, Otago University; George Samuel Bousfield Long, Guy's Hospital; Gerald Richardson Sharp, London Hospital; and William Walford Salisbury Sharpe, St. Mary's Hospital.

Biology.—Richard Ambler, Middlesex Hospital; Henry Searle Baker, St. Bartholomew's Hospital; William Fletcher Barrett, Birkbeck College; Christopher Frank Good, London Hospital; Ernest Gwyn Howell, University College, Cardiff; Reginald Jenner-Clarke, London Hospital; Theodore Louis Kan, King's College; Percy Gunn Russell, Middlesex Hospital; and Violet Annie Shaw, Birkbeck College.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Preliminary Science Examination for the Licence in Dental Surgery, held on the same dates, the following candidates were approved in the subjects specified:—

Chemistry and Physics.—Ernest Bailey, Harris Institute, Preston; William Milton Bull, West Ham Technical School; Arnold Court, Banbury Municipal School and Birmingham University; Frederick Andrew Craine, Middlesex Hospital; Herbert Ronald Cullwick, Wolverhampton Grammar School; Launcelot Machin, Guy's Hospital; and David Stewart, Salford Royal Technical Institute.

Physics.—Ellis Larner Cooke, Battersea Polytechnic; John Langley Garrard, Guy's Hospital; William Henry Churchill Gordon, Guy's Hospital; Sidney Francis Greenfield, Northern Polytechnic Institute; and Edgar William Smith, Charing Cross Hospital.

Chemistry.—Walter Lawton Cocker, Halifax Municipal College; Tom Geoffrey Melsome Parker, Middlesex Hospital; and William John Rose, Salford Royal Technical Institute.

GUY'S HOSPITAL MEDICAL SCHOOL.—The following entrance scholarships and certificates have been awarded:—Junior science scholarships: £120, Leonard Snowden Debenham, St. Paul's School, West Kensington; £60, Peter George McEvedy, preliminary science class, Guy's Hospital; certificate: James Gayner Jones, preliminary science class, Guy's Hospital. Entrance scholarship in arts: £100, Thomas Albert Victor Wood, Wolverhampton Grammar School; £50, F. Gilbert Scott, B.A., Merton College, Oxford; certificate: Douglas A. Dyer, Berkhamsted School. In the Dental School the following entrance scholarships were awarded:—Dental mechanics: open scholarship, G. L. Catts; pupils' scholarship, A. F. Rook.

NATIONAL UNION OF PUBLIC HEALTH AUTHORITIES.—A conference of Public Health authorities, under the auspices of the above union, will be held in the Council Chamber, Caxton Hall, Westminster, at 10 A.M., on Friday, Oct. 13th, to consider: (1) the urgent need for dealing immediately, on national lines, with the question of the prevention and treatment of tuberculosis; and (2) the provisions of the National Insurance Bill, in so far as they affect Public Health authorities, especially those relating to the proposed Local Health Committees. In order to influence

legislative action on both these questions the executive committee feels that it is of vital importance that any resolutions or recommendations submitted to the Government should reflect the united opinion of Public Health authorities throughout the country. The conference will therefore be open to the representatives of all Public Health authorities, whether members of this union or not.

Dr. Watson Williams will deliver the inaugural lecture on the Influence of the Upper Air Tract on Respiration, illustrated by lantern slides, at the Central London Throat and Ear Hospital, on Friday, Oct. 27th, at 3 P.M.

A MEMOIR of Sir John Burdon Sanderson is on the eve of publication by the Oxford University Press. Lady Burdon Sanderson had completed four chapters when she died, and the work has been finished by Mr. J. E. Haldane and Miss E. S. Haldane, who have added some of their uncle's papers and addresses on subjects of general interest.

THE SALE OF CORROSIVE ACIDS.—The Privy Council regulations for the sale of corrosive mineral acids came into force on the first day of this month and should do much to lessen the number of fatal accidents from these poisons among the poorer classes. The need for such regulations has long been felt, and has often been expressed in coroners' courts by medical witnesses and coroners, notably by Dr. F. J. Waldo, who referred again to the matter at an inquest on a case of hydrochloric acid poisoning on Sept. 27th in the City Coroner's Court. The new regulations lay down that sulphuric, hydrochloric and nitric acids, and "salts of lemon" must only be sold by retail in bottles, distinguishable by touch from ordinary bottles and bearing on a label the name and address of the vendor, together with the words "Poisonous" and "Not to be taken." In future the sale of the above acids in violation of these regulations will be subject to a fine of £5. On Feb. 1st, 1912, ammonia will also be included in the list.

DONATIONS AND BEQUESTS.—By his will the late Mr. Henry Overton Wills, first Chancellor of the University of Bristol, made the following bequests to medical charities and organisations, as well as a number of others of a public character:—Bristol General Hospital, £3000; Royal Hospital for Incurables, Putney, £3000; British Home and Hospital for Incurables, Streatham, £2000; Bristol Royal Hospital for Sick Children and Women, £2000; Her Majesty's the late Queen's Nurses, £2000; National Hospital for Paralysed and Epileptic £500; Bristol District Nurses' Society, £500; Weston-super-Mare Children's Convalescent Home, £250; Royal United Hospital, Bath, £500; Western Dispensary, Bath, £200; and Combe Down Convalescent Home, £200. The will also confirms the gift of £100,000 to the University of Bristol. The estate is provisionally sworn at £2,000,000.—An offer of £12,500 has been made towards the scheme for the extension of Chester Infirmary by Mr. Albert Wood of Bodlondeb, Conway.—Miss Best of London has also given £1000 for the endowment of a bed in memory of her sister, formerly a resident at Chester.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BURFIELD, J., M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Norfolk and Norwich Hospital.

HUNTER, WALTER K., M.D. Glasg., has been appointed to the Muirhead Chair of Medicine in the University of Glasgow.

MIDDLEWEEK, FREDERICK FRANCIS, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Honorary Director of Mechano-Therapeutics and Massage at the West-End Hospital for Nervous Diseases.

MILLIGAN, E. H. M., M.D.Q.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Long Eaton District of the county of Derby.

TEACHER, JOHN H., M.D. Glasg., has been appointed to the Mungo Chair of Pathology in the University of Glasgow.

WALKER, C. F., M.D. Lond. (State Med.), B.S. Lond., D.P.H. Vict., has been appointed Resident Medical Officer of the Leicester Isolation Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH, EASTERN DISPENSARY.—Resident Medical Practitioner. Salary £130 per annum, with apartments, coals, gas, &c.

BIRKENHEAD EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £260 per annum.

BIRMINGHAM CITY FEVER HOSPITAL, Little Bromwich.—Medical Superintendent. Salary £250 per annum, with board and residence.

BIRMINGHAM, QUEEN'S HOSPITAL.—Obstetric and Ophthalmic House Surgeon. Salary at rate of £50 per annum, with board, lodging, and washing.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £140 per annum, with rooms, rations, laundry, and attendance.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House Surgeons for six months. Salary at rate of £75 per annum, with board and residence.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer, unmarried. Salary £160 per annum, with rooms, &c.

BURSLEM, HAYWOOD HOSPITAL.—Resident Medical Officer (female). Salary £100 per annum, with board, residence, and laundry.

BURY INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and laundry.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Second House Surgeon. Salary £80 per annum, with board, residence, and laundry.

CHESTER, CITY OF.—Assistant Medical Officer of Health. Salary £250 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £80 per annum, with board, apartments, and laundry.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Assistant Physician.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £80 per annum, with board, washing, and residence.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Two Junior House Surgeons. Salary £80 per annum, with rooms, board, washing, and attendance.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant House Surgeon, unmarried, for six months. Salary at rate of £75 per annum, with board, apartments, laundry, &c.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £75 per annum, with residence, board, and washing.

EAST SUFFOLK COUNTY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £250 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—House Physician and Assistant House Surgeon for six months. Salary at rate of £60 per annum, with board, apartments, and washing.

GLASGOW DISTRICT MENTAL HOSPITAL, Lenzie.—Junior Assistant Medical Officer. Salary £125 per annum, with board, lodging, and washing.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Surgeon to Out-patients.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £60 per annum, with residence, board, and washing.

HOMERTON INFIRMARY.—Medical Superintendent and Medical Officer of the Homerton Children's Homes, &c. Salary £500 per annum, with luncheon, tea, &c.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary 30 guineas.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Casualty Medical Officer, unmarried, for six months. Salary £30, with board, residence, &c.

HULL ROYAL INFIRMARY.—Two Casualty House Surgeons. Salary at rate of £80 per annum, with board and lodging.

INVERNESS DISTRICT ASYLUM.—Junior Assistant Physician. Salary £140 per annum, with board, lodging, and laundry.

LEEDS GENERAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing. Also Resident Obstetric Officer and Two House Physicians for six months, each with board, lodging, and washing. Also Three House Surgeons for twelve months. Also Resident Medical Officer for the Ida and Robert Arthington Hospitals for six months. Salary £30, with board, lodging, and washing.

LEEK, CHEDDLETON ASYLUM.—Locum Tenens Assistant Medical Officer for four months. Salary 4 guineas per week, with board, residence, and washing.

LEICESTER BOROUGH EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £250 per annum.

LEICESTER INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

LIVERPOOL STANLEY HOSPITAL.—Two Junior House Surgeons. Salary £70 and £60 per annum respectively.

LOWESTOFT HOSPITAL.—House Surgeon, unmarried. Salary at rate of £100 per annum, with board, residence, and laundry.

MELROSE, ROXBURGH DISTRICT ASYLUM.—Assistant Medical Officer. Salary £160 per annum, with board, lodging, and washing.

METROPOLITAN HOSPITAL, Kingsland road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon for six months. Salary of House Physician and House Surgeon at rate of £80 per annum, with board and washing. Salary of Assistant House Physician and Assistant House Surgeon at rate of £40 per annum, with board and washing.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary £60 per annum, with board, residence, and laundry.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £100 per annum, with board, lodging, and washing.

NOTTINGHAM WORKHOUSE INFIRMARY.—Resident Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, washing, and attendance.
OLDHAM ROYAL INFIRMARY.—Third House Surgeon for six months. Salary £80 per annum, with board, residence, and laundry.
OLDHAM UNION WORKHOUSE.—Resident Assistant Medical Officer.
PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant Surgeon.
PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Senior House Physician. Salary £75 per annum. Also Senior House Surgeon. Salary £75 per annum. Also Junior House Physician. Salary £50 per annum. Also Junior House Surgeon for six months. Salary £50 per annum, with residence, board, and laundry.
READING, ROYAL BERKSHIRE HOSPITAL.—House Physician and Second House Surgeon for six months. Salary £30 and £60 per annum respectively, with board, lodging, and washing.
REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, residence, and washing.
ROYAL ARMY MEDICAL CORPS.—Twenty Commissions.
ROYAL DENTAL HOSPITAL, Leicester-square, W.C.—Clinical Pathologist and Demonstrator on Bacteriology. Salary £75 per annum.
ROYAL EAR HOSPITAL, Soho.—House Surgeon. Salary £40 per annum. Also Assistant Surgeon.
ROYAL EYE HOSPITAL, Southwark, S.E.—House Surgeon for six months. Salary 50 guineas per annum, with board and residence.
ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—House Physician and House Surgeon for six months. Board, lodging, and washing provided. Also House Physician and House Surgeon (females). Board, lodging, and washing provided.
ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London, E.C.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with board, lodging, and washing.
ROYAL NAVAL MEDICAL SERVICE.—Fifteen Commissions.
ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Honorary Dental Surgeon.
ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Senior Resident Medical Officer, unmarried. Salary at rate of £100 per annum, with board, residence, and laundry.
SALFORD ROYAL HOSPITAL.—Casualty House Surgeon for six months. Salary at rate of £50 per annum, with board and residence.
SHEFFIELD ROYAL INFIRMARY.—Three Junior Resident Medical Officers. Salaries £60 to £65 per annum.
STOCKPORT INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, and residence.
STRAND UNION SCHOOL, Millfield House, Upper Edmonton.—Medical Officer. Salary £80 per annum.
TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, lodging, and laundry. Also Honorary Physician.
TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £80 per annum, with board, lodging, and laundry.
TOTTENHAM EDUCATION COMMITTEE.—Ophthalmic Surgeon. Salary £25 per annum, plus 2*s.* 6*d.* for each scholar examined and prescribed for.
WADSLEY, NEAR SHEFFIELD, SOUTH YORKSHIRE PAUPER LUNATIC ASYLUM.—Medical Superintendent. Salary £750 per annum.
WALSALL AND DISTRICT HOSPITAL.—House Physician and Casualty Officer. Salary £80 per annum, with board, residence, and laundry.
WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.
WHITTINGHAM, NEAR PRESTON, COUNTY ASYLUM.—Pathologist and Assistant Medical Officer. Salary £200 per annum, with board, apartments, and washing.
WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon for six months. Salary £80 per annum, with board, rooms, and laundry.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Christchurch, in the county of Hants.

Births, Marriages, and Deaths.

BIRTHS.

BENETT.—On Sept. 24th, at Jubbulpore, India, the wife of Captain A. M. Benett, R.A.M.C., of a son.
RABAGLIATI.—On Sept. 29th, at Brookton, Western Australia, the wife of A. H. Rabagliati, M.D., F.R.C.S.E., of a daughter.

MARRIAGES.

FOWLER—CANT.—On Sept. 29th, at 8, Midmar Drive, Edinburgh, William Hope Fowler, M.B., Ch.B., F.R.C.S.E., to Julia, youngest daughter of the late James Cant, Ore Bridge, Thornton. At home, 8, Midmar Drive, Nov. 7th, 8th, 9th, and 10th.
LANE—STEPHENS.—On Sept. 26th, at St. John's Church, Roundhay, Gordon J. Lane, M.D., to Margaret Louise, widow of the late W. Ryan Stephens.

DEATHS.

BLANC.—On Sept. 30th, at Paris, Sir Henry Jules Blanc, K.C.V.O., M.D., I.M.S., F.R.C.P. (retired), aged 80 years.
HARDING.—On Sept. 27th, at Osman House, 118, Cromwell-road, Montpelier, Bristol, John Alfred Harding, M.R.C.S., L.R.C.P., L.S.A., aged 84 years.
STOPFORD-TAYLOR.—On Sept. 29th, at Standishgate, Meols Drive, West Kirby, in her 54th year, Ann Alice, the wife of Dr. Stopford-Taylor, of West Kirby and 28, Rodney-street, Liverpool.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DR. WILLIAM HARVEY IN THE LAZARETTO.

THE latest volume issued by the Historical Manuscripts Commission consists of a further report (the fifth) on the extensive collection of MSS. of the Earl of Denbigh, preserved at Newnham Paddox, Warwickshire. Mrs. S. C. Lomax, who prepared and edited the report, calls attention, in her introduction to the volume, to an interesting group of about a dozen letters written by Dr. William Harvey, the great physician, to Lord Feilding, and relating to a quite unknown incident in the doctor's life. In 1636, as is well known, he accompanied Lord Arundel on his mission to the Imperia Court. Passing through the "ruined, desolate country of Germany," they arrived at Lintz, where the Ambassador had his first audiences, and where Dr. Harvey went twice or thrice a hunting with the Emperor. While waiting for an answer to England's proposals, Lord Arundel and Harvey went to Vienna, where they visited the Queen of Hungary and the Archduke, "and two very fine little babies, her children." Thence Dr. Harvey went to Baden, near Vienna, to see the baths. "After this, we hear nothing more for three weeks, but it is evident that after parting from Lord Arundel at Ratisbon he arranged to visit Lord Feilding at Venice. We may conjecture that he went by Munich, Innsbruck, the Brenner, and the Putzerthal. At any rate, we find that he eventually reached Villach in Carinthia, crossed into Venetian territory at Pontebba, and travelled by Sacile and Conegliano to Treviso. But there, when he was joyfully expecting to be that night with his friend at Venice, he was stopped by the podesta, on the plea that his passport was not properly *visé*, and that he came from places infected with the plague. The podesta even demanded that he should go into the lazaretto. In vain Harvey protested that he was travelling with pass and recommendations from the Emperor and the English Ambassador, that his business required haste, and that if he had come from infected places he would have been stopped at the Venetian frontier; the officer would listen to no reason." The following extracts from Harvey's letters to Lord Feilding show exactly what occurred:—

"1636, Aug. 3-13. Treviso.—My sweete lord, I came this morning to the gates of Treviso with greate joy, and hoped this night to have had the happines to have beene with you att Venise, butt I have receyved heare a very unjust affront, being stayed and commanded by this podesta to have gone into the lazaretto, without any cause or suspition alledged. I took my first *fede* under the seale of Ratisbone, a place free, and now destined, as your Eccellency knoweth, for the meeting of the Emperor and all the rest of the princes, which yf it had not beene soe, they would not have com thither, it being infected or suspected. Since, in every place as I came, I caused my *fede* to be underwritten, soe that there is no ground for them to lay any suspition upon me. And att this sentence on me by the podesta (that I should goe to the Lazarett) I absolutely refused, and sayd and offered to shewe that I had the pass and recommendation of his Majesty the King of Great Brittane and of the Emperors Majesty and of my lord Embassador his Eccellency, and that I had to goe to princes and men of quality, and that my business required expedition, and desier'd they would not hinder me, butt, as my passes required, further me and that I mought not bring that suspition and infamy on me, besides my own security, to go to such a place as lazaretto, whear they use to putt infected persons, and that I had shown them sufficient *fede*. Notwithstanding all this, heare I am to lye for ought I see in the open base [*sic*] feilds, God knows how long. The podesta refuseth to see or reade my passes, and I cannot cum att him to speake and use my reasons. I am afrayd this lying in the feild will doe me hurt in my health. I beseech your Eccellency to lamen hearof. It is unjust to proceed with any man thus without cause and otherwise then Venetians are used in Ingland or so merrit to be used heare, and otherwise then is fitting for the respects there shold be used in the passes forenamed. I pray pardon this scribbling on the grass in the feild, and procure with all expedition my freedom from this barborous usadg. Your distressed frend and humble servant of your Eccellency.

"1636, Aug. 6-16. Saturday.—I perceyve heare by their behavier to me how much your Eccellency is pleased ther to stirr and labor for me, for yesterday after I had sent my letter to your Eccellency, they sent sum in a coatch to me, as from the podesta, that I should goe to the other place, where I was before (yf I would) or that I should have heare a bed, or that he would doe for me what he could, to which I answeared that since it had pleased him with soe much rigour and cruelty to inflict upon me the greatest misery he could and had brought soe much infamye upon me as to putt me into this lazaretto without any just cause, without any respect of the reccommendations I had from my lord Ambassador his Eccellency or from the Emperors Majesty or from his Majesty

my master, not soe much as to reade them or give notice of them in his first dispatch to Venis, nor to make any difference of a servant of his Majestye the King of Greate Brittan, butt by force and threatning of muskets to compell me into the very nasty roome wheare the vitturin and his two servants and saddels lay and not att my request granting me a bed or any commody scarce straw; his offers now weare unseasonable and like phisick when a man was ded and that I had now hardened my self and accomodated as I did content myself and resolved, since it had pleased God by his hands to humble me soe low, I would undergo it as a pennance and that I had writtan to your Eccellency and hoped by your intercession within sum few days to have release, and therefore determined to receyve and acknowledge all my comfort from you and to troble the podesta with noe other request but that he would with all expedition free me and shew a respect to my master and my bysines; and debating the bysines and urging them for a reason of all this and that it was unjust to detayne any man and not show him the cause, or to receyve a man into ther territoryes and then imprison him, they should have denied me entrance att the first and then I had gone sum other way for they should have putt those townes they suspect into ther bands and then I had shunned them or make known att his entrance to every man what he was to doe, otherwise this was to surprize and catch men; and they knowing not well what to answear sumtime alledged that Villach was suspected, sumtime I had not gotten my *fede* subscribed att Conian or Sacile, sumtime that the vitturin had brought a boy with him, his son to gett a master, whose name was not in the vitturins *fede*, soe sumtime I was stayed for him, sum time (they sayd) he and his horses stayed for me. ..... I write the larger to your Eccelency of those passages because I know not what they may make of my conference in ther letters that ye may know the truth, and indeed my lord I am a little jealous of them, and to take anny beds now of their sending, for since ther manners and cruelty hath been soe shamefull to me, and they have soe little reason for what they have done, it would be like the rest of their proceedings yf they sent me an infected bed to make ther conjectures and suspitions prove true; therefor I choose to ley still to be redeemed by your Eccelency oute of this inocent straw. Yesterday likewise the patron that owed the howse wheare I first took my straw bed (a little poore garden howse full of lumber, durt and knatts, without window or dore, open to the highway att midnight) was to offer me that agayne, because I had chosen that to shun the infamy of this lazaret and the suspition I had that sum infected person had lately bene heare, and from which they forced me with terror of muskets, I write this to show your Eccelency that all they doe heare upon your stirring is butt formal to salve their own errors. I tell them I desier nothing of them, or expect or will except, but only beseech the podesta that I may be att liberty with all expedition, and that att last he will have respect to princes recommendations and to my bysines; and now as I am writing I humbly thank your Eccelency, your servant is arrived and hath bene with me and is gone to the podesta according to your order. He will tell you of a trick to burn my pass and the injury they have offered me therein. ..... Yf they make difficulty of my comming to Venis, I pray that I may have sufficient *fede* from hence and I will goe by Padua to Florence and see your Eccelency as I retorne. I pray pardon me for propounding this to your Eccelency whoe know better hearin what is to be done which I doute not but you will performe, that I may be free and we rejoyse together heareafter; and in good sober truth I feare least this ill usadg and base place and the unquiett of my mind may not bring sum sicknes on me this extream hott wether therefor I beseech, etc. Your Eccelency's humble servant.

"1636, Aug. 9-19, Tuesday afternoon.—My sweete lord, this place is soe incommodious to me, and affordeth me soe little comfort, as I beseech your Eccelency to pardon me yf I take the bowldnes herein to make my complaynts unto you. The great longing I have to be gon and free maketh me thinke these 4 days past (since I had the comfort to see your servant here) to appeare soe maney yeares, whearin I hoped ether they would have relented of ther cruelty or your Eccelency effected somethinge for my releife. I had thought with joy to have presented my service unto you, and now am sory instead thereof to putt your Eccelency to the troble I knowe ye take for me. The ill diett I have heare and the wors usadg hath produced this ill effect that now these two nights I have had a sciatique in my right thigh and legs that much discorageth me, and maketh me lame. I would fayne Signor Francesco [Vercellini] would come unto me. I will pay for his coatch and expence, to direct and advise me, and to deliver him the busynes I have to him from my lord Embassador and the letters I have els to Venis; and yf he bring my freedom with him, I shale have the more joy; yf not, he may gett me heare some garden house, with fier, bed, and other necessaryes, least I fale wors. Yf his being there effect better for me, then that som man be hired theare to com and goe between, by whom I may heare often what is or can be done, and may certefy me of the receyte of my letters att the least, that I may heare what I may hope or looke for.

"1636, Aug. 12-22, Friday, Treviso.—Although I know your care and dilligence for my liberty, and make noe dowte butt your Eccelency doth what is possible and omitteth noe occasion, yett the longing I have to be out of this thraldom and the dayly hope from you maketh me soe often look oute as having not heard from you sinse your man was with me (on Satterday last), I desier much to know how the case standeth, what is the cause, what I may expect. ..... I hoped much on your Eccelencys complaynt to the Colledg butt now because I heare not I dowte much least they neglect you too. I have now been heare 10 dayes and my *fede* giveth me testimony of health for 40 days almost before that, soe that I cannot guess other than sum malis in this, considering with what cruelty and severity they have proceeded with me. My sciatiq which I gott heare by injurious lodging I thanke God mendeth well. ..... Even as this morning I had finished thes lines, came one from this podesta to vew us how we weare in health and sayth within these 2 dayes we shale have liberty, butt what trust may be given to there words I cannot tell. I fear it is but a shuffel to deteyne me heare yett a weeke longer, which is the extremity they doe to the worst *fede* and meanest man.

"1636, Aug. 13-23.—My sweete Lord, becaus I see heare nothing, nothing butt injury, deceyte, and jugling every day this eleven days, that to-morrow and att night and to-morrow and shortly I shall be released, and doe not heare from Venis any certenty by any hand; and I ley heare in a miserable case; I pray pardon me yf to your Eccelency I seme in this often sending importune; eccept by your Eccelency his means (in whom is my only hope to gett release from these barbarous oppressions) they delight hear soe to exercise there tirenny as I am likelye for every day they promise a weeke.

"1636, Aug. 16-26, Treviso.—I wrote to your Eccelency yesterday what a heavy messadg these of the Sanita hear delivered to me from the Senate att Venis, which was that I must stay heare yett until farther order; and asking how long, they sayd seven or ten or twenty dayes, soe I perceyve they doe butt abuse your Eccelency to beare you in hand that every day I shale have my liberty, and therein they betray me and make me loose my time, with whom yf they had delt playnly and rowndly I mought have gone back att the first to Villach and from thence to Gorilia, and there gotten shipping and beene by this time at Rome or Florence, and sene your Eccelency and dispatched my bysines at Venis comming back. Now yf I stay a weeke or ten dayes more heare I shall loose soe much time as the intent of my jorney wilbe broken, and I must retorne without going farther. Good my lord, I be eech you, putt them spedily and rowndly to it, ether that I presently goe (having now bcene 15 days) or that I may retorne, which is a thinge is usuall heare, and a little while agoe they did it, sending ther officer with them untill they weare out of their territorye, and in justice they cannot deney your Eccelency one of these and indeed nether, yf ether they did respect anythinge your intercession or would doe justice. I perceyve I am fallen into the handes heare of most base and evel people, and now they begin to accuse one an other, and when I ask them the cause of my stay they forge lyes, as that I was att Salsburg and that Villach hath the plague, and I know not what, and in this place they have talked soe much that to-morrow and to-morrow I should be free, and when your Eccelency stirred in it, expected noe less than present delivery, that now they begin to disesteeme what your Eccelency's favour can doe for me. ..... I never longed for anythynge in all my life soe much as any way and on any condition to be gone from this base place and barbarous people and fearing lest I should be sick and then they would crye me into the plaug and keep me and cheate and tyrunise ove me. God knoweth how long Signor Francesco was with me on Sunday last and tould me (I humbly thanke you) with what desier and ernestnes your Eccelency dealt for me, and that ye hoped every day; butt other perticulars I could not learne by him, nor since."

After the foregoing there are no more letters from Treviso, nor any record of Harvey's departure from the lazaretto, but there is a note from him to Lord Feilding, dated Sept. 7th-17th, 1636, at Florence, from which it appears that he had been for some time at liberty and was then enjoying "much contentment with health and mirth" and receiving many attentions from the Grand Duke, who had himself shown him many of his rarities and treated him with great favour. One more letter, dated in November, announced his arrival at Ratisbon, where he rejoined Lord Arundel and with him travelled home to England.

A WARNING.

To the Editor of THE LANCET.

SIR,—I wish you would insert in the next issue of your journal a note warning your readers, and especially Edinburgh teachers and graduates, that an impostor is writing on my behalf or in my name asking financial assistance, and as a result has, I understand, been assisted. His proceedings, to my intense annoyance, have assumed wide scope, and I would be glad if anyone who receives one of these letters would communicate with me at once. Thanking you in anticipation, I am, Sir, yours faithfully,

Sudbury, near Harrow, Oct. 3rd, 1911. ROBT. H. MARTIN.

AN INTERESTING NOTE.

To the Editor of THE LANCET.

SIR,—On June 29th, 1911, Thomas Bailey, fisherman, aged 34 years, and his son, aged 13, fell overboard at the mouth of the Ouse. Both were drowned. The father, who could swim, tried to rescue his son, who could not. The bodies were recovered from the water on July 7th, I held an inquest on the body of Thomas Bailey on July 8th, and saw the body and examined it. He died *fascino recto*.

I am, Sir, yours faithfully,

EDWARD M. BELOE, Borough Coroner, King's Lynn.

King's Lynn, Sept. 27th, 1911.

A.B.—In each case the fee belongs to the principal unless a special arrangement has previously been made.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for October, 1911:—

April October.—Rome Exhibition (United Italy's Jubilee).
,, 28th-Oct. 26th (Turin).—International Exhibition.
May 3rd-Oct. 31st (Glasgow).—Scottish Exhibition.
,, 6th-Oct. 31st (Dresden).—International Hygiene Exhibition (British Section opens June 14th).
May 12th-Oct. 31st (London, Crystal Palace).—Festival of Empire Imperial Exhibition. (Profits to King Edward VII. Hospital Fund.)
May 18th-October 31st (London, Shepherd's Bush).—Coronation Exhibition.
Sept. 19th-Oct. 31st (London).—Earl's Court Exhibition.
,, 23rd-Oct. 21st (London, Olympia).—Electrical Exhibition.
September-November (Antwerp).—International Exhibition of Alimentation, Brewing, Wines, and Liqueurs.
Oct. 2nd-7th (Dresden).—Third International Housing Congress.
,, 2nd-7th (Paris).—French Congress of Surgery, Twenty-fourth Annual Congress.
,, 5th-7th (Paris).—Fifteenth Meeting of the French Association of Urology.
,, 6th and 7th (Paris).—French Association of Pediatrics.
,, 9th-12th (Turin).—Twenty-first Congress, Italian Society of Internal Medicine.
,, 9th-13th (Cologne).—Seventh International Congress of Criminal Anthropology.
,, 10th (Paris).—International Sanitary Conference (to Revise the International Sanitary Convention of 1903).
,, 12th-18th (Rome).—Fifth Annual Meeting of the Italian Society for the Advancement of Science.
,, 13th-16th (Turin).—Third National Congress of Professional Diseases.
,, 15th (The Hague).—International Opium Conference.
,, 20th-22nd (Roubaix).—Second National Congress of the Mutalité Maternelle.
,, 22nd and 23rd (Lyons).—Twelfth French Congress of Medicine.
,, 25th-27th (New York City).—Annual Conference of Sanitary Officers of the State of New York.
,, 26th-28th (Rome).—Congress of the Italian Society of Laryngology, Otology, and Rhinology.
,, 31st-Nov. 4th (London, Royal Horticultural Hall).—Twenty-second Universal Cookery and Food Exhibition.
October (Paris).—First Congress of the International Medical Association for the Prevention of War.
,, (Stoke-upon-Trent).—Church Congress.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 4th, 1911.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 28	30·19	W.	0·20	94	62	54	52	55	Cloudy
,, 29	30·23	N.W.	...	109	61	45	46	49	Fine
,, 30	29·68	W.	0·12	97	59	49	56	57	Cloudy
Oct. 1	30·19	N.	...	85	52	40	39	42	Cloudy
,, 2	30·14	N.W.	...	92	54	40	40	43	Fine
,, 3	29·84	NNE	...	84	56	43	43	45	Fine
,, 4	29·88	N.E.	...	70	53	45	45	48	Fine

The following journals, magazines, &c., have been received:—Dominion Medical Monthly, Middlesex Hospital Journal, St. Louis Medical Review, Archives of Pediatrics, Ash's Monthly, The Prescriber, Journal of the Royal Sanitary Institute, Indian Medical Gazette, Medical Record, Therapeutic Gazette, Bodenreform, Australasian Medical Gazette, Mercy and Truth, Review of Neurology and Psychiatry, British Journal of Dental Science.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

FRIDAY.

GENERAL MEETING OF FELLOWS at 4.45 P.M.
Election of Candidates for Fellowship.

CLINICAL SECTION (Hon. Secretaries: James Galloway, Charles H. Fagge): at 8.30 P.M.

Cases:
Dr. H. D. Rolleston and Dr. W. P. Tindal-Atkinson: Case of Spondylose Rhizomelique.
Dr. W. Essex Wynter and Dr. J. Murray: Case of Toxic Cirrhosis with Spleno-portal Thrombosis (Banti's Disease); treated by Femoral Drainage.
Dr. James Galloway: Case of Intractable Neuralgia with Myoma Cutis.
Mr. R. C. Elmslie: Case of General Thyroid Malignancy.
Dr. H. Batty Shaw: Case showing Unusual Area of Audibility of a Cardiac Murmur.
Dr. Wilfred Harris: Acute Encephalitis in a Girl æt. 13.
Mr. P. Lockhart Mummery: Three Cases of Excision of the Rectum Three Years after Operation.
Sir Frederic Eve: Case of Resection of a Myeloid Sarcoma of the Tibia with Bone Grafting.
Dr. C. Ward: Case of Pseudo-hermaphroditism.

Paper:
Dr. A. Gregor and Dr. Hopper: A Series of Cases of Acute Anterior Poliomyelitis.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., General Meeting. 8.30 P.M., Dr. J. M. Bruce (Incoming President): Opening Address. Dr. L. Guthrie: Recurrent Jaundice with Pyrexia, Splenomegaly, Anæmia, and Pigmentation of the Skin, in a Girl of 11 Years.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

WEDNESDAY.—5 P.M., President's Address. Major E. M. Pilcher, D.S.O., R.A.M.C.: The New Bullet.

HUNTERIAN SOCIETY, London Institution, Finsbury-circus, E.C.

WEDNESDAY.—8.30 P.M., Council Meeting. 9 P.M., Dr. T. B. Hyslop: Intra-cranial Murmurs and their Relation to Tinnitus Aurium. (First Hunterian Lecture.)

NEW LONDON DERMATOLOGICAL SOCIETY, at the Rooms of the British Dental Hospital (temporary premises), 2, Hampstead-road (Tottenham Court-road end).

THURSDAY.—4.30 P.M., Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Mr. W. Evans: Clinique (Skin). 5.15 P.M., Lecture:—Dr. E. Pritchard: Convulsions in Infants and Young Children.
TUESDAY.—4 P.M., Dr. H. L. Tidy: Clinique (Medical). 5.15 P.M., Dr. J. Collier: Paralyses which are Apparent at the Time of Birth.
WEDNESDAY.—4 P.M., Mr. J. Milne, jun.: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. G. H. Savage: The Relationships between Neurasthenia and Insanity.
THURSDAY.—4 P.M., Dr. A. Morison: Clinique (Medical). 5.15 P.M., Lecture:—Dr. D. McKenzie: Enucleation of the Tonsils.
FRIDAY.—4 P.M., Mr. G. French: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Edwards: Suppurative Diseases in Connexion with the Anal Canal.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M., Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. R. Jones: The Common Varieties of Insanity.
WEDNESDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Morton: The Use of Solid Carbon Dioxide.
THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture.—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery. (Lecture I.)
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Clinical Lecture:—Mr. Pardoe: Urinary Surgery.
SATURDAY.—10 A.M., Medical Registrar: Demonstration of Cases in Wards. Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Sir Dyce Duckworth: Cirrhosis of the Liver.

TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 2.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 4.30 P.M., Special Lecture:—Dr. C. Hughes: Anæsthetics.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Sir J. Rose Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—10 A.M., Radiography. 11 A.M., Dr. A. Davies: Pathological Demonstration. 2 P.M., Operations. Out-patient Demonstration:—10 A.M., Surgical and Medical. 11 A.M., Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY AND FRIDAY.—3.45 P.M., Mr. C. Nourse: Accessory Sinuses.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Erythema.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4 P.M., Lecture:—Dr. B. Shaw: Anaphylaxis and its Relation to Disorders of the Thoracic Viscera.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Collier: Diagnosis and Treatment of Meningitis.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Collier: Tumours of the Pons.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Mr. E. S. Bishop: Urinary Surgery. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.) Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (11th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (12th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (14th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

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